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NOVEL TREATMENT OF LAMINITIS.

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I NOTICE in last month's Journal an article with the above heading, by Mr. MacGillivray, M.R.C.V.S., Banff. The novelty, it appears, consists in the use of Inject. morph. hypoderm.

So far as my own experience goes, it is not novel or new to myself, as I am almost daily using it; in fact, I never go to an important case where pain or fever is present without my hypodermic syringe and different hypodermic preparations in my case; and on interrogating Mr. Campbell, whom I am assisting at present, and who, I know, frequently practises the use of hypodermic injections, I am informed that he has resorted to them for the last eight years. In my notes of session 1880-1881, taken from lectures delivered by Professor McCall, F.R.C.V.S., I find a great many cases in which he advises the use of the above medicinal agent. The advantages to be derived from the use of hypodermic medicines are obvious, and they may be used with benefit in all cases of acute inflammations, especially when pain is intense—such as Laminitis, Enteritis, Pleurisy, Lymphangitis, Mammitis, etc. In using morphia, I generally give in the first instance a pretty large dose, say xx. or xxv. ♏, repeating it morning and evening, and oftener if necessary. I can recommend a better hypodermic agent than croton oil—namely, aloin, as in using it it is not destructive to the tissues at the seat of injec-

tion, it is readily absorbed, and it has a mild but an efficient action as a cathartic. To illustrate the form of treatment I pursue, I may mention that I had a case of Acute Laminitis in a three-year-old entire horse, the property of Mr. Montgomery. As the horse was a valuable one, no pains or expense were to be spared in making a recovery. I found my patient standing in a loose box, covered with profuse perspiration, and unable to move; pulse full and bounding, and temperature elevated. After having the shoes removed and the soles thinned, which was done with difficulty, I caused him to stand with his fore feet in a large tub of hot water, sufficient to cover the fetlocks, for eight hours. I also poulticed them. The hind feet were likewise poulticed, and hot water poured on for a considerable time. I at once injected xxv. ♏ Inject. morph. hypoderm., over the region of the brachial glands, and repeated it in five hours. In all cases of Laminitis the condition of the bowels should be seriously considered before attempting to administer a purgative, as they are so irritable in cases of Laminitis, especially of a metastatic form. I am confident that the chance of recovery in many animals is faint, from the injudicious use of cathartics.

I will not take up any more space by giving detailed treatment, but may add that the patient made a splendid recovery, and was afterwards sold for a large sum of money.

I had an interesting case of Rheumatic Synovitis in a foal. It was left well at night, and next morning it was very lame in the near hock—so lame, in fact, that it was carrying the leg. On examining the part very carefully, I found it swollen and very tender, and there was much fever present. I at once recommended fomentations for twenty-four hours; these being applied by laying a flannel cloth over the part, and pouring on water at a certain temperature; at the same time I injected xii. ♏ Inject. morph. hypoderm., and administered salicylate of soda in milk. After fomentation, I applied to the hock Lin. sapon. *cum* opii. We were pleased to see the following day, that the serious symptoms had entirely disappeared. The foal was walking pretty well, although the hock was still swollen. But, to my annoyance, the following evening the other hock

was similarly attacked. With this I pursued the same treatment. The symptoms soon disappeared from this hock also, and on the following evening the animal was attacked with a rheumatic inflammation of the meninges of the brain, which soon rendered it comatose, and it died without a struggle.

THE INFLUENCE OF HEREDITY AND CONTAGION ON THE PROPAGATION OF TUBERCULOSIS.

(*Continued from page* 334.)

Stirnimann,* who has carefully studied the disease in Switzerland, and has given a very exact description of it, states that when cattle were fed on marshy pastures the disease was much more frequent than at present, when they undergo a stable *régime.*

If this be a fact, it might be concluded that sour pastures, damp air, or marshy emanations, are the causes of the malady; but in order to explain the frequency of the affection in this case, we may also mention the *frequent chances of contact* permitted by depasturing cattle—chances which are considerably reduced by keeping cattle in stables.

According to Tessier,† the cause of the disease is to be found in the conditions created by newly-constructed cowsheds; and yet sheds similarly constructed to those in the infected localities have been tenanted by cattle which have not been affected by the disease. Tessier had not in view the propagation of the malady by a contagium diffused in the sheds, as in his work he asserts that he only treats of those affections which are due to a vicious construction of dwellings. A number of morbid manifestations met with in animals, and which we cannot as yet otherwise account for, may otherwise be ascribed to the latter cause.

It is almost the same with regard to those causes which are qualified as occasional, for the reason, it is said, that the occasions for invoking and discovering them are never at fault.

All the older writers, besides, give as a cause of this malady

* "Schweiz. Archiv." New Edition, 1851, p. 17.

† "Observations sur plusieurs Maladies des Bestiaux." Paris, 1782, p. 105.

XUM

a special disposition, which they attributed to an excess of nutrient fluid.

Vieth was of opinion that the predominance of coagulable lymph in the blood became the cause of stagnations in glandular parts, and these stagnations determined the production of tubercular tumours in the serous and other cellular membranes containing much white blood. This opinion is still that which comes nearest to the ideas prevailing now-a-days. If he had known, as we now do, the irritant agent which originates the morbid process, and if he had attributed the advent of the disease to the action of this irritant, his interpretation of Tuberculosis would not have been very different from that generally accepted at present.

In the following chapter we shall prove that the bovine and porcine species, as well as rabbits, are predisposed to Tuberculosis. To express this fact in a word, these animals have a *constitutional predisposition* to this disease.

To explain this disposition, the idea has been entertained that the malady is more especially an affection of the lymphatic vessels and glands, as well as of the connective tissue and the serous cavities. The connective tissue in bovines, pigs, and rabbits is much more lax in structure than in the other domestic animals, and its meshes are larger, while the tissue itself is more abundant. These are conditions which were supposed to account for the tendency to fatten in pigs and cattle, animals in which this tissue is in such quantity in the lungs, that we can easily recognise the limits of the pulmonary lobules through the intact pleura. This laxity of tissues, and this kind of inferior organisation, is met with in these animals, not only in the connective tissue, but also, in general, in the muscular tissue. Taking into account these facts, it is maintained that the connective tissue possesses lymph spaces, and particularly nutrient canaliculi, which, destitute of proper walls, establish a communication between the lymph and blood capillaries.

To keep the lymph in circulation in these channels, the intervention of muscles and elastic fibres of the connective tissue are considered necessary. As a consequence, therefore, of not only an abundance of connective tissue, but also its looseness

XUM

and large meshes, as well as a relatively undeveloped muscular system, this tissue only receives an inconsiderable amount of pressure from the muscles, and there is, accordingly, a decrease in the circulation of the lymph, which frequently stagnates for some time between one point and another.

According to the researches of persons who are more particularly occupied in studying the lower organisms, among which we may mention Koch and Pasteur, stagnant or slowly-circulating fluids furnish a very favourable soil for the development of pathogenic proto-organisms. It therefore follows that the animals in which we find the fluids, such as the lymph or mucus, in a state of stagnation, are a very favourable soil for the action of these morbid causes.

However this may be, the predisposition to the morbid disturbance we are considering does not explain any more the development of this disease than the knowledge of occasional causes. Perhaps it will only be when we know the medical geography of Tuberculosis that we shall arrive at a conclusion on this subject, and may be brought to admit that it is due to only one cause, more or less prevalent everywhere, producing an effect essentially the same in all the animals submitted to its influence, though it may nevertheless present itself under somewhat different forms in its manifest expressions.

Tuberculosis is more especially developed in bovine animals, and is very prevalent among them, as we shall see presently.

The disease is met with wherever cattle are kept in a state of domesticity. It is seen in Russia, Sweden and Norway, in Denmark, Germany, Holland, Belgium, France, Spain, Portugal, Austrian Hungary, Greece, Italy, Algeria, Australia, New Zealand, the Danubian Principalities, the Northern United States, and Canada; also in Mexico.* According to Krabbe, it is almost unknown in Iceland, and Stenstroom states that it is very rare in Polar countries, in the north of Norway and Sweden, and in Lapland and Finland, where, nevertheless, the cattle are small and weak, and often rachitic.

* In "Veterinary Sanitary Science and Police," I have shown that in Mexico it is very common, and causes much loss, about thirty-four per cent. of the cattle slaughtered for food being found affected. The disease is also known in India, it being designated in Bengali *Jokkakas* and *Kyakas*.—G. F.

The frequency of the disease increases as we approach warm climates.

The cattle of Holland and Switzerland often contract Tuberculosis when carried to Spain, and nearly all those sent from these two countries to colonies in the equatorial zone are attacked by the disease.

In Italy Tuberculosis is a veritable scourge to agriculture (Perroncito), and in Algeria it is not less prevalent than in Italy. According to Fleming,* it is becoming more common in England.

A cold climate is therefore less favourable to the development and propagation of Tuberculosis than a warm or tropical one.

We possess but little information with regard to the propagation of the disease during the past century. Graumann,† in 1784, estimated at 4,000 to 6,000 thalers the damage annually caused by Tuberculosis among the cattle in Prussia, which was then only a small kingdom. About the same period, the meat inspector at Rostock had rejected, on the average, as unfit for consumption, the flesh of five cattle annually, or according to Graumann, one per cent. of the animals slaughtered.

It prevailed enzootically in the faubourgs of Paris during the years 1789, 1791, and 1794, and Huzard was charged to adopt the measures necessary to arrest its ravages. During 1791, it reigned in the arrondissement of Saarbourg, Lorraine, and at different times it caused much damage in the eastern departments of France.

Hurtrel d'Arboval, from whose dictionary we have borrowed this latter information, estimated that in the circonscriptions of Brie, Beauce, and Caux, there was a tuberculous subject among every eight to ten head of cattle.

For the present century we have much statistical information with regard to its propagation, particularly that furnished by Wolf, Zürn, and Fischbach. Wolf states that in the environs of Leignitz, fifteen per cent. of the cattle are tuberculous. According to Zürn, it affects one-fifth of the bovines in the environs

* "Tuberculosis," p. 11.

† "Traite sur la Phtisie Pommelière de la Béte Bovine." Rostock and Leipzic, 1784.

of Jena, in the circonscription of Eisenburg, and in the Duchy of Altenburg; while Fischbach states that 2½ to 3 per cent. of all the cattle in the circle of Lower Taunus are diseased.

For Bavaria and the Grand Duchy of Baden in general, as well as for certain of the towns in these and other localities, we may refer to some precise details with regard to the cattle generally, and those for slaughter in particular.

According to the excellent abstracts prepared by Göring, on the Sanitary Condition of Animals in Bavaria, there were in that country in 1877 and 1878, respectively, 4,976 and 5,052 cattle affected with this disease; or, in 1877, 1·62 per cent., and in 1878, 1·61 per cent.

In 1,000	bulls	5·84	were tuberculous;
„	bullocks	1·39	„
„	cows	2·50	„
„	heifers or stirks	0·35	„
„	calves	0·09	

In 1877, of 4,976 cattle recognised as tuberculous, 64, or 1·31 per cent. were less than a year old; 328, or 10·81 per cent. were from one to three years old; 1,846, or 37·80 per cent. were from three to six years old; and 2,445, or 50·07 per cent. were more than six years old.

In 1878, the 5,052 tuberculous cattle were apportioned as follows:—

65	or 1·3	per cent. were less than a year old;
551	„ 10·2	„ from one to three years;
1,730	„ 34·5	„ „ three to six years;
2,360	„ 46·5	„ „ more than six years.

For 336 animals the age was not noted.

Göring, in publishing this abstract, remarks that the veterinary surgeons were not always informed as to the existence of the disease, and that the numbers given above must be considerably below the actual amount in any case. For more ample details in this respect, we have only to consult the *Deutsche Zeitschrift für Thiermedicin*, Vol. IV. p. 281, Vol. VI. p. 136.

Adam, in investigating the list of animals killed in the abattoir of Augsburg, arrived at the following results:—

In 1879, of	10,988	cattle slaughtered,	321,	or 2·92	per cent. were tuberculous;
„ 1880, „	11,688	„	262, „	2·24	„ „
„ 1881, „	12,500	„	247, „	2·00	„ „

According to Drexler, of 55,882 cattle slaughtered at Munich in 1875, 704, or 1·25 per cent. were affected with Tuberculosis in a very evident manner. Trapp reports that among 11,079 cattle killed in the Strasburg abattoir in 1880, 220, or 1.9 per cent. were tuberculous (this number did not include those slightly affected). For the same year, Mandel found 174, or 3·4 per cent. among 5,105 cattle slaughtered in the Mulhouse abattoir, and in 1879, Strobl and Magin recorded 1,125, or 2·5 per cent. of 44,699 slaughtered at Munich.

Taking into consideration the ages of the animals, the 1,125 were classed as follows:—

Cattle under one year	2,	or	0·2	per cent.;
„ from one to three years	81,	„	7·1	„ ;
„ „ three to six years	378,	„	33·5	„ ;
„ „ over six years	664,	„	59·2	„

The 1,125 tuberculous cattle may be also apportioned in the following order:—

218, or 1·13	per cent. of	19,284	bullocks	slaughtered;
558, „ 5·30	„	15,789	cows	„ ;
40, „ 0·68	„	5,823	bulls	„ ;
28, „ 0·73	„	3,803	heifers or stirks	„ ;
1, „ 0·0006	„	149,971	calves	„

From these figures, it results that:—

About two per cent. of the cattle sent to the abattoirs of these different towns are affected with Tuberculosis;

The proportion of male to female animals so affected is as one to three;

The greatest number of animals are more than six years of age;

After these, the largest number is from three to six years;

Very young animals are almost exempt from Tuberculosis.

We should fall into an error, however, if we attempted to deduce from these facts a direct conclusion as to the propagation and apportionment of Tuberculosis among cattle, as is proved by the figures given by Göring. According to these, there should be among the cattle 1·6 per cent. affected with the disease, but information gathered in the abattoir would show that there is a larger percentage among those killed for food.

It can easily be understood why the proportion of cattle re-

cognised tuberculous at the abattoirs or after slaughter should be greater than that reported among cattle in general, as those sent to be slaughtered for food are more particularly calves, as well as cows or somewhat aged bullocks. Very rarely are steers or heifers seen at the abattoirs, and yet this complex group forms a large proportion of the bovine population—young cows, bulls, bullocks, and heifers constituting about 60 per cent. of the whole.

In the Grand Duchy of Baden, where every year a census is taken of the cattle, there are reckoned, in every hundred, seven calves, twenty-three young bullocks or heifers, thirty-four young cows under six years old, seventeen above six years, ten bulls, and nine oxen. The number of cattle in the Grand Duchy has been, for the last ten years, 600,000 head, not including calves older than four weeks, which are usually slaughtered for food. On the average, 113,000 cattle are annually slaughtered in the Grand Duchy—a little more than one-fifth, or 20 per cent. of all the cattle. This 20 per cent. is made up of calves, cows, oxen, and aged bulls, as well as of younger animals which are not considered fit for breeding purposes, milk production, or labour, and a certain number of others which can be conveniently slaughtered.

As comparatively old cattle furnish the largest contingent of tuberculous subjects, it should be admitted that these 20 per cent. of the bovine population, constituting the animals destined for food, *form a group in which Tuberculosis is much more frequent than in the remaining portion of the bovines:* in other words, *Tuberculosis is much less common in the general bovine population of a country than among the cattle sent to the abattoir.* The following statistics support this assertion:—

In the Grand Duchy of Baden, where the inspection of meat is carried out in all the communes, and where the inspectors furnish a quarterly report in a prescribed form to the district veterinary surgeon, in every 1,000 cattle killed eight are found tuberculous; in the communes in which the butchers' shops are almost exclusively supplied with the flesh of cows, the average number of tuberculous animals rises from eight to fifteen. These are the figures which correspond with the period from 1874 to

1880, and which are calculated on a total of 957,867 slaughtered cattle.

Of 1,000 cattle, the flesh of which was rejected as unfit for food, about one-half—430—were tuberculous. On the other hand, as is shown by the following table, there were only 2·2 per thousand, or 0·22 per cent., tuberculous cattle, which were—

(*a*) Treated by veterinary surgeons;
(*b*) Killed in public or private abattoirs;
(*c*) Slaughtered by the owners in consequence of disease;
(*d*) Sent to the knacker when dead from disease.

The losses occasioned by Tuberculosis among the whole of the cattle in Baden are shown in the following abstract:—

Administrative District:	Engen	0·07 per cent.
	Constance ...	0·12 „
	Messkirch ...	0·10 „
	Pfullendorf ...	0·01 „
	Stockach ...	0·11 „
	Ueberlingen ...	0·23 „
	Arrondissement of Constance	0·11 per cent.
Administrative District:	Donaneschingen	0·11 per cent.
	Triberg... ...	0·11 „
	Villingen ...	0·03 „
Administrative District:	Bonndorf ...	0·12 per cent.
	Sückingen ...	0·16 „
	St. Blasien ...	0·36 „
	Waldshut ...	0·49 „
	Arrondissement of Waldshut	0·31 per cent.
Administrative District:	Breisach ...	0·15 per cent.
	Emmendingen	0·03 „
	Ettenheim ...	0·30 „
	Freibourg ...	0 35 „
	Neustadt ...	0·16 „
	Staufen... ...	0·35 „
	Waldkirch ...	0·11 „
	Arrondissement of Freibourg	0·21 per cent.
Administrative District:	Lörrach... ...	0·10 per cent.
	Mulheim ...	0·13 „
	Schönan ...	0·03 „
	Schopfheim ...	0·07 „
	Arrondissement of Lörrach	0·09 per cent.

Administrative District :	Kork	0·06	per cent.
	Lahr	0·04	„
	Oberkirch ...	0·26	„
	Offenbourg ...	0·11	„
	Wolfach ...	0·24	„
Arrondissement of Offenbourg		0·15	per cent.
Administrative District :	Achern	0·15	per cent.
	Baden	0·42	„
	Bühl	0·18	„
	Rastatt	0·05	„
Arrondissement of Baden		0·15	per cent.
Administrative District :	Bretten	0·47	per cent.
	Bruchsal ...	0·17	„
	Durlach ...	0·66	„
	Ettlingen ...	0·23	„
	Karlsruhe ...	0·74	„
	Pforzheim ...	0·62	„
Arrondissement of Karlsruhe		0·45	per cent.
Administrative District :	Mannheim ...	0·45	per cent.
	Schvetzingen ...	0·04	„
	Weinheim ...	——	
Arrondissement of Mannheim		0·13	per cent.
Administrative District :	Eppingen ...	0·81	per cent.
	Heidelberg ...	0·34	„
	Sinzheim ...	0·28	„
	Wiesloch ...	0·15	„
Arrondissement of Heidelberg		0·37	per cent.
Administrative District :	Adelsheim ...	0·10	per cent.
	Buchen	0·21	„
	Eberach ...	0·38	„
	Mosbach ...	0·15	„
	T. Bischofsheim	0·08	„
	Wertheim ...	0·60	„
Arrondissement of Mosbach		0·25	per cent.
Grand Duchy of Baden		0·22	per cent.

Although these numbers have been collected by competent public functionaries, we ought, nevertheless, to consider them as

below the real figures, because, on the one hand, many owners of cattle do not send for the veterinary surgeon to attend every case of disease occurring among their stock, and many tuberculous animals are consequently not reported; and, on the other hand, a certain number of animals are, notwithstanding all the regulations in force, concealed from the meat inspector, after having been killed while *in extremis*, or they are considered as affected with Tuberculosis when they are not really so. For the Grand Duchy of Baden, we shall not be far from the truth if we admit, as the approximate number of cattle affected with the disease, as double that given above—that is, 0·45 per cent.

As in Baden the number of cattle affected with Contagious Pleuro-pneumonia has only, during the years 1874 to 1880, attained the proportion of 0·01 per cent., and as it is the same with anthracoid affections, it may be admitted that the losses caused by Tuberculosis among cattle in the Duchy are at least twice the number of those occasional by Contagious Pleuro-pneumonia and Anthrax combined.

The table which shows the prevalence of Tuberculosis proves that the disease is not equally spread in the different districts, and it would be interesting to learn why it is infrequent in some of them.

According to Zippelius,* Tuberculosis is most frequently developed in deep and narrow valleys, or in densely-populated localities surrounded by walls. The disease causes greatest ravages in damp and dark dwellings, built against hill-sides, and constructed of freestone.

The frequency of the affection decreases and increases with the condition or means of the cattle-owners, the cowsheds of the poorer owners being often very badly constructed.

The disease is rare, on the contrary, in localities where the habitations are roomy and situated on elevated ground, exposed to the winds. In these localities the disease is less frequent, because the dwellings are often built of boards or laths, which allow free access of air.

In the Obernbourg district, where the above conditions are realised to a high degree, among the cattle slaughtered during

* "Wochenschrift für Thierheilkunde und Viehzucht," 1876, p. 189.

the last six years not one has been found affected with Tuberculosis; and yet the district contains 1,637 head of cattle.

If we are to judge from Göring's abstracts, the same differences in the frequency of the disease exist in the districts of Bavaria.

For instance, the losses caused by Tuberculosis in every 1,000 cattle are distributed in the following manner:—

In 1878, 2·20; and in 1877, 2·45, in Upper Bavaria;
" 1·80; " " 0·75, in Lower Bavaria;
" 2·25; " " 2·30, in Palatinate;
" 1·20; " " 1·22, in Upper Palatinate;
" 0·84; " " 0·97, in Upper Franconia;
" 1·06; " " 0·94, in Middle Franconia;
" 2·43; " " 2·30, in Swabia.

Göring completes these statistics in adding that in the part of the country inhabited by the uni-coloured mountain cattle, Tuberculosis is most frequent, because of the large number of cases of the disease in the districts of Weilheim, Kempten, Krumbach, and Mindelheim, where the dairies are numerous and important, and where continual importations of new milch cows occur.

In speaking of Tuberculosis in the Palatinate, this practitioner expresses himself in the following terms:—"A part of the great frequency of the disease in the Palatinate belongs to the districts of Frankenthal, Germersheim, Kaiserslautern, Kirchheim, Landau, Neustadt, and Spire—all districts into which a large number of cattle are brought either for milk production or to be fattened. On the contrary, cases of this disease are rare in those districts where the Glan breed of cattle predominates, as in the circles of Kusel and Hombourg—breeding districts into which very few animals are imported."

In Baden the affection is most frequently met with in the neighbourhood of large towns; it is much less common, or is almost entirely absent, in hilly or mountainous parts. In certain regions where cattle are kept almost exclusively for breeding, Tuberculosis is nearly unknown, as in those in which are raised the Hinterwald cattle (Schönau, Lörrach, and environs), and in the administrative districts of Pfullendorf and Messkirch. Up to the present time these districts have also remained free from Contagious Pleuro-pneumonia, while those which were previously

frequently visited by the latter malady are the ones that now have numerous cases of Tuberculosis occurring in them.

These differences do not appear to depend altogether upon the nature of the soil, altitude, methods of cultivation, or conditions of comfort: the latter do not seem to intervene here, only in so far as they are favourable or unfavourable to the breeding of cattle. If in consequence of these conditions farmers adopt cattle-breeding, they produce not only sufficient for local demands, but also for those of commerce, and are thus regular exporters without being required to import. If the local conditions are, on the contrary, unfavourable to breeding, the agriculturists procure the cattle they may require from without; consequently, changes are frequent among their stock.

Contagious diseases in general, and Tuberculosis in particular, are very infrequent in habitations to which strange cattle are not admitted, and where vacancies are filled up by the home stock.

Veith, in his writings, states that Tuberculosis is not met with in animals which live in a wild condition, nor even in those which are in a semi-savage state. Spinola confirms this statement, and adds that the affection is unknown in the Russian steppes, and is rare in elevated regions.

Does not Tuberculosis, in all these points, call to mind the etiological history of Contagious Pleuro-pneumonia?

(*To be continued.*)

PARTURIENT APOPLEXY IN CATTLE, COMMONLY KNOWN AS "MILK FEVER."

BY J. H. COX, M.R.C.V.S., ARMY VETERINARY DEPARTMENT, 5TH DRAGOON GUARDS.

(*Continued from page* 341.)

It is generally conceded that in all cases of parturition where an undue amount of hæmorrhage is present, this disease rarely makes its appearance. The loss of blood during prolonged labour has its beneficial effects in two ways. In the first instance, by reducing the amount of over-fibrinated blood in the system, together with excrementitious products, the tendency to clot is

materially lessened, if not reduced to a minimum. Secondly, so long as hæmorrhage goes on it forms an obstruction to thrombi entering the circulation, and by its mechanical agency washes, as it were, the parts in close proximity. Or, in other words, so long as there is an outward flow of blood it is not possible for coagula to find an ingress into the vessels. If the hæmorrhage is continued until the uterus regains sufficient tonicity to close upon itself, or become involuted, the chances of Parturient Apoplexy then become remote. It is in instances where labour has been fulfilled without apparently much loss of blood, and when, although we may not recognise it at the time, the uterus but very slowly assumes its pre-conception state, that this disease makes its appearance. The clots necessary to prevent serious hæmorrhage must have been formed, but the inherent contractile power of the vessels is insufficient to prevent portions of them being taken up by the circulation.

We have additional evidence in support of the theory of Thrombosis being correct. Numbers of animals on recovering from Parturient Apoplexy, succumb to another form of Apoplexy —Pulmonary. Occasionally it runs on to *Acute Pneumonia*, which in rarer instances is closely associated with the form known as *Croupous*. Our investigations in morbid anatomy enable us to come to fairly correct conclusions as to the metamorphoses which have taken place under these metastatic complications, and we find that this undue blood pressure, which hitherto implicated the whole system, is now concentrated at one given point—the lungs. This contingency is the one I most feared during the time I gave attention to this subject. It is not difficult to follow out the connection between the fibroid exudate of Croupous Pneumonia, with its counterpart in the blood generated during utero-gestation. Death, as a rule, results before this climax has been reached, *i.e.*, from Pulmonary Apoplexy.

Some attribute the cessation of lactation, so pathognomic in this affection, to mental influences ; but although it is common in human beings for mental impressions, by reflex action, to have their dire effects upon the milk supply, not only in the amount secreted, but also in the quality, I do not think that in these cases we have proof that the same forces

XUM

are in operation. The lacteal secretion is arrested by the same means as those which implicate other organs, *i.e.*, by defective nerve stimulus, resulting from thrombi. We have no proof that the supply of blood to the udder has become diverted ; on the contrary, we oftener find it tense and hard, but it still refuses to yield the fluid which under ordinary circumstances forms so prominent a characteristic. The tender and hot feeling so recognisable in this organ, is additional evidence that the vessels are engorged with the material from which milk is secreted. Under these circumstances, it cannot be said that the mammary gland does not participate in the influx of blood which some would have us believe to be solely the *fons et origo* of this disease. In some cases it is true that the udder is flaccid, and would appear to be destitute of the natural supply of blood necessary for lactation, but similar results are observed when Parturient Apoplexy is never realized. Further, why is it that, when the disease has been checked, the mammary gland is amongst the first to register the information? Is it that the superfluous blood, of which so many speak, has, by some mysterious process, been withdrawn from the system, and concentrated in the udder? I so, the powers of accommodation inherent in that organ must be very elastic. No ; the blood ramifies as abundantly through the capillaries of the mammary gland as through any other organ, but, like the rest part of the body, it is under some baneful influence, which militates against the successful performance of its functions. This is due, as I have attempted to show, to Thrombosis.

The attention of veterinarians is sometimes directed to another form of Apoplexy, which makes its appearance *ante* the birth of the offspring. This surely cannot be classified as "Milk Fever"! At the same time, it bears the closest analogy to results occasioned by Thrombosis. When we remember that the blood during gestation is loaded, even to excess, with fibrin, and that this component part forms the bases of all thrombi, it does not require a great stretch of imagination to conceive that by some misadventure this solid constituent may be precipitated in any part of the circulatory medium, and once being established, begins to exercise its genetic influence on the rest part of the

fluid. Any untoward circumstance may bring about this issue in the circulation, as injuries to any portion of the body, the habit of "punching," of which I shall have more to say anon, heart disease, mechanical obstruction occasioned by tumours or constricted vessels, aneurisms, etc. All or any may combine to produce Thrombosis, and hence Apoplexy.

The paralysis so pathognomic in these cases occurs from distended vessels and sinuses exercising undue pressure on the various nerve-centres. There is, in fact, a species of cerebro-spinal hyperæmia. The energy of the heart becomes less vigorous, and there is a want of *vis a tergo* which, in the first stage of the disease, was the means of preventing anything like embolism. The attacks vary in intensity, ranging from partial insensibility to that of rapidly profound coma, and depend entirely on the amount of obstruction or thrombi circulating in the blood.

The pathological summary, then, is as follows:—

(1) The principal factor in the production of this disease is *Thrombosis.*

(2) Fibrinated blood is a natural result of pregnancy, but an overplus in this respect predisposes an animal to Parturient Apoplexy by affording the necessary bases for thrombi.

(3) The exemption experienced by animals at the first and second calf, is owing to the contractile power of the uterus and its vessels being in that pristine condition necessary to prevent the admission of thrombi into the circulation.

(4) Suspended function of the various organs results from defective nerve stimulus, occasioned by blood pressure, the sequel of this mechanical agency—*thrombi.*

Causes.

These are divided into predisposing and exciting. The former embrace everything tending to render an animal susceptible to attack, whether arising from pre-existent disease which militates against the proper performance of the circulation, hereditary predisposition, class, prior attacks, or faults in general management. The morbid conditions necessary to produce this susceptibility are exemplified in *tumours* pressing on the main vessels,

and thus by their mechanical agency interfering with the smooth and easy flow of blood throughout the system. *Aneurisms* would exert a similar influence if located on some of the larger vessels. *Heart Disease*, by the functions of this organ becoming impaired, might also form a point for generation. *Excrementitious matter* from any source, such as inflammatory products, wounds, injuries, operative interference, blisters, etc. In fact, anything whereby the circulation generally is interfered with or over-burdened, will predispose an animal to attack.

The habit of ascertaining whether or not an animal is in calf, and commonly known as "punching," ought to be severely deprecated in the way it is practised by inexperienced men. This manipulative dexterity is no doubt essential in our dealings with cattle, but it should be performed by those who have some knowledge of what they are endeavouring to ascertain, and not, as is often the case, by mere tyros whose touch cannot be considered elastic. The walls of the uterus are composed of tissues highly endowed with blood-vessels and nerves, especially at the points from whence the *cotyledons*, or *burrs*, take their origin ; so that when the method of punching is improperly carried out they become contused, and we get an undue determination of blood at a given point, and hence a focus from which Thrombosis may emanate.

Hereditary taint is a factor which has not been sufficiently recognised as an agent in production. This disease being the result of domestication, it is just possible that this cultivation, if I may so term it, has its degrees of intensity, in some instances well marked, in others not so noticeable. In proof of this, we know that some particular classes evince a disposition to become attacked, whilst others are, in a measure, proof against it. I well remember that on one large farm, where a particular strain of cattle was cultivated, Parturient Apoplexy was very rife, so much so that the owner was somewhat perplexed to account for it. On discussing the subject with him, I discovered that this annoying periodicity dated from the time he purchased a "stock bull" of a particular strain. At my suggestion he changed it, and the percentage of cases became very much reduced. Whether this was merely a coincidence, or whether it

was due to some change in general management, I am unable to say; at any rate it is worth consideration. We are cognizant that in other diseases where hereditary taint plays an important part its effects are minimized by the judicious application of rational principles, or enhanced in proportion as we disregard its fixed and immutable laws. I do not propound this theory as an absolute one, but, from my own practical knowledge, I am convinced that it has an important bearing in relation to our subject, and it might with advantage form the basis of a series of experiments by those who are so situated as to be enabled to deduct correct conclusions.

Class doubtless exerts itself in bringing about this morbid condition. I have had very little experience of *Alderneys*, but *Mr. Hill*, in his admirable work on "Bovine Medicine and Surgery," states that they "are exceedingly prone to it, and with them it is more frequently fatal." Purity of blood does not induce this contingency so often as the different strains now so much in vogue. I am acquainted with many breeders of *shorthorns*, and they assert that Parturient Apoplexy is not by any means so frequent an occurrence as, from the prodigious size and condition of the animals, one would expect. It is in our heavy milking strains where the risk is run, and it is this mysterious connection which gained for this disease the title of "Milk Fever."

Prior attacks induce a proclivity to its return; hence, when an animal has once suffered, it is deemed advisable either to sell it, and allow others to have the unwelcome experience of combatting the disease, or to fatten it off for the butcher. This proneness to a second attack was explained when speaking of the pathology; but it is just possible that hereditary taint may co-operate with other forces in existence, and thus render an animal doubly liable.

Faults in general management account for some victims —it may be many. Stock-owners, like the rest part of the community, have profited by the dissemination of knowledge in their particular branch. But whether from apathy or want of faith in what are called "new-fangled" notions, there are those who do not follow out the principles which actuate the more observant of their co-workers. We, therefore, find the grossest disregard of

barometric variations, errors in dietetics, proper sanitary supervision, etc., each or all of which may act as predisponents to this and other diseases. Any direct violation of the laws of nature will, if persevered with, have a pernicious effect on animal life, especially at a time, like the one under consideration, when the tension is so great.

Errors in Dietetics, especially just prior to calving, perhaps furnish a greater liability to Parturient Apoplexy than any other indiscretion. It is customary where animals are allowed that species of repose dictated by nature—that is, during the time the lacteal secretion is in abeyance—to feed them somewhat sparingly, so far as quality goes. It is said that there is no object in keeping a cow up to "concert pitch" during the latter period of utero-gestation, or when it is "dry." There are some, however, who, as the time of calving approaches, substitute a more nutritious diet for the plain fare generally administered. This mode of procedure induces a species of *plethora*, which some practitioners argue is alone sufficient to account for the disease. The speedy development of rich blood, to put it in plain English, generated by such means, is antagonistic to the well-being of an animal in this condition of life. It is far better to keep up an average standard of excellence than to adopt extremes. The organs of the body become habituated to any established system, and provision is made for working up to the demands imposed upon them. It is when they experience sudden and undue pressure that friction more especially occurs. Some owners go a step further, and take care to have their cattle in the pink of condition, so that when disease overtakes them they are meat fit for the million, and the loss is thereby reduced to a minimum. It is the sudden changes in this respect which constitute the danger to Parturient Apoplexy.

Milking the cow prior to calving has its advocates, whilst others as bitterly oppose it. I can call to mind several large stock-owners who look upon this method as *the* one great preventive; and no amount of abstract theories or scientific reasonings would convince them that they are pursuing a course of error. Their practice, they say, is attested by results. *Mr. Hill* strenuously opposes it on grounds sufficiently explanatory, presuming his

ideas of the pathology are correct. Personally I see no particular harm in it; on the contrary, a dual benefit accrues from the practice. In the first place, when the udder becomes very tense and painful, it certainly produces a sense of relief to have its contents withdrawn. In the second, by encouraging the circulation of blood at one given point, we, in a manner, abstract from the system generally those molecules of *materies morbi*, which, we are cognisant, increase with such astounding rapidity as to jeopardise the animal's life by placing it on the verge of that precipice which so often proves fatal. The current of blood thus directed to a focus from which it can discharge some of its inherent morbid elements, cannot be considered censurable. For, I take it, it is our paramount duty to foster, as much as possible, any tendency to reduce that hyperæmic condition to which I have alluded. One object in giving purgative medicine is to bring about this result. It must be borne in mind that the blood-circulating area of the udder, as presented externally, is infinitesimal as compared with its internal ramifications, and holds second place only to the lungs in importance in its vascular elaboration. So much so, that it presents a surface of sufficient magnitude as to enable it to counteract the ill effects generated by over-fibrinated blood. But to do this, it must be kept in full working order. *Ergo*, is not the activity which milking gives rise to a means of centralising the blood, as it were—and hence with it any liability to Thrombosis—at a point where it will become, by reason of the organic function of the udder, disintegrated, and thus by degrees lose its genetic power so far as Parturient Apoplexy is concerned? Some people argue that to milk a cow prior to calving is an unnatural process, and therefore *must* be wrong. To such I would say that the artificial tendencies of this age are ever and anon on the increase. Nature pure and unadulterated—where, indeed, does she exist, except in primeval forests and their inhabitants? The very fact of milking at all is unnatural; but this is no argument against the practice, nor is it more *apropos* as to the time selected for the operation.

(*To be continued.*)

XUM

Editorial.

VETERINARY EDUCATION.

THE rapid advance which has been taking place in medicine and the collateral sciences in recent years, the greater value of the domesticated animals, and the closer attention that is being paid to sanitary matters, especially in the relationship of the public health to animal products utilised as food by mankind, have all aided in bringing into view the necessity for having well-educated veterinarians—men of liberal education generally, and thoroughly trained professionally. Whatever may have been the case at one period in the history of our profession, when perhaps it was imagined that the more illiterate a practitioner of veterinary medicine and surgery was, the more skilful he must needs be, such is certainly not the position now. The public demand educated men to attend to their animals, and none but proficient men can carry out the duties pertaining to the many Government and other official posts created by the demands of a rapidly-growing civilization. There may be those among us who have an intense horror of a veterinary surgeon who knows anything of a language, living or dead, in addition to his own, who understands the language and the aims of science, and who can claim to have had a fair general education. But these can know but little, if anything, of what is needed in the present day to constitute a professional man, such as a veterinary surgeon should be.

Every year those who understand the requirements of the times, so far as our profession is concerned, are intent on further raising the standard of education.

Seeing the greater importance attached to veterinary medicine, and the demands made upon its practitioners for higher qualifications, the organisers of the International Veterinary Congress recently held at Brussels made veterinary education one of the subjects for discussion, and a commission, composed of MM. Hugues, first-class veterinary surgeon in the Belgian Army; Professor Wirtz, director of the Utrecht Veterinary School; and Professor Müller, of the Berlin Veterinary School, was formed to report upon it. Hugues drew up the report in the form of an able essay on the subject, Müller and Wirtz adding their views as *addenda*, as they were not completely in accord with their coadjutor. The following were the principal propositions submitted by the Commission to the Congress, and they will show the estimation in which general and professional education is held by our colleagues on the Continent :—

1. The preparatory training required for the study of veterinary medicine should be the same as is necessary for the student of human medicine; or at least they should be so educated as to be competent to be admitted to the highest class of a middle-class school. This school should belong to those whose students are eligible for admission to Universities, in which the teaching of Latin is obligatory. Any person who does not possess a certificate of admission to the first class of one of these schools, should give evidence, by a special examination, that he

possesses a corresponding degree of knowledge, the examination being conducted by a Commission independent of the teaching staff of the veterinary schools.

2. There is no need to create veterinary surgeons of different classes, having a different degree of preparatory knowledge and veterinary instruction.

3. At least four years' special study is necessary to acquire a complete knowledge of veterinary medicine, if the physical and natural sciences are to be included. The teaching during the first two years (four terms or sessions) should include physics, chemistry and natural history (geology, mineralogy, botany, and zoology), anatomy, histology, physiology, and horse-shoeing, with the practical tuition required in these. During this period of study, the branches of technical zoology, comprising the natural history of domestic animals, exterior, and zootechny, should be taught.

Clinical instruction should be given during the whole of the last two years of study. In order that the practical instruction of the students may be complete, it is absolutely necessary that, in addition to a stationary and consultative clinic (hospital clinic and polyclinic), there should be an ambulatory clinic (outside clinic).

Practical instruction in horse-shoeing should not be considered useless, but, on the contrary, valuable; at the same time it should be kept within proper limits.

Meat inspection is a branch of instruction absolutely necessary in order to complete veterinary instruction.

4. At the end of the second year's study, the student should be examined in all the branches taught during the two years. No one should be allowed to pass to the third year's study without undergoing this examination in a satisfactory manner, and no one should be admitted to this examination unless he has passed the preliminary test. Veterinary examinations should be the same, or as nearly as possible the same, in all countries.

5. Residence in the schools is not advantageous, and compulsory residence therein should be suppressed.

6. Veterinary schools may be separate or autonomous establishments, or annexed to Universities or other institutions of superior instruction; but veterinary medicine in these should be professed in special chairs. But the creation of these establishments—in which all the branches of veterinary instruction is given in a very limited number of chairs—is not to be approved; it is an absolutely insufficient system.

7. Professors in veterinary schools should possess a veterinary diploma, except in the case of those who lecture on physical or natural sciences. It is much to be desired that veterinary surgeons, before becoming professors, should have practised for some years; and the diploma of veterinary surgeon or doctor of medicine should not give a special claim to a professorship. Professors should be selected from among the assistants, and on the proposition of the teaching staff of the school. In order to be always able to complete the professorial staff, numerous assistantships should be created.

XUM

In the discussion which followed, it was finally decided that, for admission to the veterinary schools, a candidate should be a bachelor in letters or sciences, *i.e.*, should have passed a second-class examination. In section 3 it was decided that the practical and zootechnical portions should not be insisted upon, and that there should be two clinical teachers; that at the termination of each year students should be examined on the subjects taught during the year, and those who have not been successful should not be allowed to proceed to the studies of the following year; that no student should be allowed to appear for the final examination who had not, after two years' study, undergone a clinical course during two years, either at a veterinary school or with a competent practitioner; that the *externat* and *internat* are facultative in the veterinary schools; and that veterinary schools in every country should be State institutions. The other propositions were agreed to.

The time at the disposal of the Congress was so short, considering the various pressing questions which had to be discussed within a few days, that other important points in connection with veterinary teaching were only slightly touched, or not referred to at all. But as will be seen, from what was done, the subject received a large share of attention. Indeed, every member present seemed to feel that upon the thoroughness and completeness of the education which veterinarians receive depends the welfare and usefulness of veterinary medicine. In our own country, this feeling is that which predominates in those who best understand the requirements of the age in which we live; and to assert that a veterinary surgeon of nowadays can be a successful practitioner in proportion as he is illiterate and unscientific, is to assume an untenable position, and to argue that the modern veterinarian should be nothing better than the ordinary farrier of a century ago.

PROPOSED VETERINARY COLLEGE FOR IRELAND.

On November 8th, at a stated general meeting of the members of the Royal Dublin Society, held at the society's house, Kildare Street, under the presidency of His Grace the Duke of Leinster, Mr. J. H. Ferguson proposed a resolution on the subject of establishing a veterinary college in this country. He said it might be in the recollection of His Grace that the commission over which he presided in 1868 for investigating the affairs of the Royal Dublin Society had considered that very important question. Mr. D'Olier, who was exhaustively examined on that occasion, showed that from 1800 to 1826 a veterinary professor was attached to this society. It would appear also that a Select Committee of the House of Commons, in 1864, reported on the importance of a veterinary college for Ireland being established, and recommended that it should be placed under the control of the Royal Dublin Society. The veterinary professor had now become one of great eminence and national utility, and the recent Acts of Parliament relating to contagious diseases in animals had been so important that it became necessary to create a veterinary department in the Privy Council. Every poor law union in Ireland was an employer of veterinary surgeons, so that the question affected the national taxation. His Excellency the Lord Lieutenant, he had reason to believe, was very favourable to the establishment of a veterinary college.

It was a hard thing that Irish veterinary surgeons should be required to proceed, at considerable expense, to London or Edinburgh to obtain their diplomas. Edinburgh had two colleges and London one. This country would not be satisfied with a school which would have merely examining powers. It should also be a diploma-granting school. (Hear.)

Lord POWERSCOURT said that he looked upon the motion as a good one, and that the Royal Dublin Society, from its connection with agriculture, ought to take an interest in this subject. The question had been discussed, he believed, in the Lord Lieutenant's presence on several occasions, and His Excellency was favourable to the idea. The Government, he believed, was also well inclined to the establishment of a veterinary college in Ireland, and the adoption of this motion would assist them.

Dr. GEORGE JOHNSTON STONEY supported the substance of Mr. Ferguson's motion, and regarded this as a very opportune moment to resume the consideration of the question. So far back as 1800 the Irish Parliament, in making a grant to the Dublin Society for certain purposes, ordered that if a balance remained over it should be applied in providing a veterinary college. From that time the subject was lost sight of by the society, and they had every encouragement at present to hope for practical results from a consideration of the subject. While he approved of the principle of Mr. Ferguson's resolution, he considered that it contained a few matters which might create a difficulty, and he proposed, as an amendment, that it be referred to the council to appoint out of its members such members of the Society or others, as it might see fit, to report to the council as to the most feasible means of founding an Irish College or School of Veterinary Science and Medicine, and that a full report be laid before the council at the earliest meeting this season which the council can hold.

Lord JAMES BUTLER thought it would appear very ungracious to propose an amendment to a resolution in the spirit of which they were all agreed. (Hear, hear.)

A conference then took place between Mr. Ferguson and Dr. Stoney, and ultimately the following resolution was adopted, on the motion of Mr Ferguson, seconded by Dr. Stoney—"That it be referred to council to appoint out of its members such members of the society, or others, as they may see fit, to report to council as to the most effectual means of founding an Irish College or School of Veterinary Surgery and Medicine, with independent power of examining and conferring degrees, and that a full report be laid before a special meeting of council to be held before March, 1884."

THE FITZWYGRAM PRIZES.

WE are requested to notify that Lieut.-General Sir Frederick Fitzwygram's Veterinary Prizes for the current year will be open to three candidates from each College, the candidates to be selected by the Principal of the College.

All who are or have been students during the year ending 30th April, 1884, are eligible for selection.

The prizes, scheme of examination, and other arrangements generally, will be the same as last year.

The examination will take place on the 2nd Tuesday in May, 1884.

Further details can be learned on or after 1st April, from the Secretary R.C.V.S.

THE CENTRAL VETERINARY SOCIETY'S CONVERSAZIONE.

THIS conversazione has been put off for a short time. Notice of date will be given in due course.

XUM

Proceedings of Veterinary Medical Societies, &c.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(Continued from page 366.)

CODE TABLE.

CHAPTER I.—ON THE DUTIES OF VETERINARY PRACTITIONERS TO THEIR CLIENTS AND PATIENTS, AND THE OBLIGATION OF CLIENTS TO THEIR VETERINARY ADVISERS.

SECTION I.—*The Duties of Practitioners to their Patients.*

A veterinary practitioner should readily obey calls to sick patients, not forgetting the responsibility of his mission, and that his obligations are the more enduring, as there is no reprimanding judge but his own conscience in case of carelessness and neglect; let him combine skill, attention, and fidelity with gentleness, firmness, and authority, so as to inspire the minds of his clients with gratitude, confidence, and respect.

Cases of urgency require frequent visits, but unnecessary visits should be avoided, as tending to diminish the authority of the practitioner, and render him liable to be suspected of interested motives, and thus discredit the profession.

A practitioner should never unnecessarily make a glowing prognostic in order to magnify the importance of his services.

A practitioner is not justified in abandoning a patient because the case is incurable, so long as his instructions are duly carried out, always remembering while there is life there is hope. Nevertheless, circumstances may justify a man relinquishing the care of his patient, such as indiscreet and unwarrantable interference with his treatment; in such necessity a practitioner's innate self-respect will indicate the course he should pursue.

In difficult or protracted cases consultations should be freely and judiciously promoted, as they engender confidence, evoke energy, and enlarge views of practice.

A veterinary surgeon often has opportunities of relieving suffering by enlightening the owner on the disastrous consequences that must ensue from his persistent over-loading, straining, over-working, negligent feeding, ill-sheltering his stock, etc., etc., and it is one of the most noble services we can render the brute creation, and if tendered with feelings of courtesy will give satisfaction rather than offence.

SECTION 2.—*Obligation of Clients to their Veterinary Surgeon.*

The members of the faculty, on whom devolve so many arduous and anxious duties in the interests of their clients, are called upon to sacrifice rest, comfort, and health, and night journeys, and inclement weather, and even exposure to infectious diseases. Such sacrifice entitles them to expect moral obligations from their clients and considerate and honourable treatment.

A client's duty is to select a duly educated and registered practitioner. Veterinary medicine is a most difficult and intricate science, and no one can be supposed to obtain knowledge of its mysteries intuitively.

A client should apply early, in case of accident or illness, as too many cases are past remedy, simply from unwise delay in seeking aid, and then the veterinary art is unjustly reproached.

A client should faithfully represent the history of his case, as our patients

cannot verbally refute erroneous statements, which might mislead the practitioner and could not aid the patient.

A client should insist on our instructions being promptly and implicitly carried out, being uninfluenced by his own or other crude opinions; for a failure in any one particular may render an otherwise judicious plan of treatment hurtful, and even dangerous; and relapse is not uncommon from indiscreet disregard as to diet, exercise, or exposure.

A deaf ear should be turned to all self-constituted doctors and their infallible remedies, which are more frequently productive of much mischief instead of relief, and interfere with the authority of the medical attendant.

Clients should, when practicable, send for their veterinary surgeon early in the morning, so as to enable him to apportion his time, and to obviate any clashing of engagements. They should avoid the hours of meals and of sleep, as a laborious life merits due repose.

CHAP. II.—ON THE DUTIES OF VETERINARY PRACTITIONERS TO THE PROFESSION, TO EACH OTHER, AND TO THEMSELVES.

1. Every one who enters the profession, and thereby becomes entitled to its privileges and immunities, incurs the obligation to exert his abilities to promote its honour and dignity, to elevate its status, and extend its influence and usefulness. He should therefore strictly observe such laws as are instituted for the guidance of its members, and avoid all disparaging remarks relative to the faculty as a body, or its members individually; and should seek by diligent research and careful study to enrich the science and advance the art of veterinary medicine.

2. It is incumbent on the faculty to be temperate in all things, for the practice of physic requires a clear head, steady hand, and a quick eye, always ready for any emergency.

3. It is derogatory to the profession to solicit practice by advertisement, circular, card or playcard; also to offer gratuitous advice, or to publish or knowingly permit to be published cases and operations in the daily press; to invite non-professional men to be present at operations; to boast of cures and remedies; to adduce testimonials of skill and success, or to do any like acts.

Such are the ordinary practices of charlatans, and are incompatible with the honour and dignity of the profession.

4. Equally derogatory to professional character is it for a practitioner to hold a patent for any proprietary medicine or surgical instrument, or to dispense a nostrum, or to attest the efficacy of patent or secret medicines, or to sanction the publication of written testimony in favour of articles of commerce, or to enter into a compact with a druggist to share profits arising from the sale of medicines. No practitioner desirous of upholding the dignity of his profession should resort to any unprofessional devices.

SECTION 2.—*The Duties of Practitioners in regard to Professional Services to each other.*

1. All members of the profession are entitled to the gratuitous services of the neighbouring faculty for their personal patients (travelling expenses excepted); kind offices, and professional aid should always be cheerfully and freely afforded, on the principle of—Do as you would have others do to you.

SECTION 3.—In case of accident or illness, it is an act of Christian duty to offer assistance; but if a practitioner seeks pleasure or amusement, and requires aid in his neglected business, for such services he must give remuneration.

XUM

SECTION 4.—*The Duties of Practitioners in Consultation.*

1. The possession of a diploma of the Royal College of Veterinary Surgeons or of a recognised Continental or Colonial College ought to be the only right to the honours of the profession. However, the recognition of existing registered practitioners must be left to individual taste; but where animal suffering is concerned (we) should not be too fastidious. A homœopathist (or unqualified assistant) is not entitled to consultation with a practitioner; he cannot countenance what he does not believe, and therefore would act dishonestly.

2. In consultations feelings of emulation and jealousy should be laid aside, and the most honourable and scrupulous respect for the character and standing of the practitioner in charge of the case should be observed, and the treatment of the latter justified, as far as is consistent with regard for truth, and no hint or insinuation thrown out to damage his reputation.

The consultant should also carefully abstain from any of those inordinate attentions which have been sometimes practised by the unscrupulous for the purpose of gaining undue credit or ingratiating himself, and for a consultant to take up the treatment of a case by ousting the practitioner is a monstrous breach of etiquette.

3. In consultations the consultant fixes the hour of meeting, and after the preliminary conference relative to the history of the case the consultant proceeds with his examination to satisfy himself of the true nature of the case, but no observation of any kind, indicating an opinion as to the nature of the malady, treatment pursued, or its probable issue, should be made in the hearing of the owner or his servants until the consultation is concluded.

Both practitioners should retire for deliberation, and the opinion and treatment having been determined by the consultation of himself and colleague, he (the consultant) should express to the employer the opinions and directions agreed upon, and no *opinions* or prognostications other than those mutually assented to after deliberation should be expressed.

4. It will be the duty of the regular attendant to see the measures agreed upon faithfully carried out; but in the event of unexpected change in the case requiring alteration of treatment, such an event must be fully explained at the next consultation. The same privilege and duty devolve on the consultant when sent for in the absence of the regular attendant.

5. Punctuality in appointments should be strictly observed. In the event of unavoidable delay in the arrival of one of the parties, after waiting a reasonable time, the consultation should be deferred until a new appointment can be made.

In the absence of the consultant the regular practitioner will treat his case, but should the practitioner be absent the consultant should retire, unless it is a case of urgency, or he has been summoned from a long distance, under which circumstances he may examine the patient, and express his opinion in *writing* and *under seal*, to be delivered to his associate, and in the meantime should meet the emergency by such treatment as he may deem necessary.

6. In consultation a Fellow of Veterinary Medicine is entitled to precedence of the general practitioner.

7. If when more than two practitioners have met in consultation an irreconcilable diversity of opinion unfortunately occur, that of the majority should be acted upon, the greatest moderation and forbearance should be observed and the issue communicated to and left to the client.

It may happen that two practitioners fail to agree in their views of a case, and the treatment to be pursued (an incident always to be much regretted), and if possible avoided by such mutual concessions as are consistent with the dictates of judgment.

If, nevertheless, a difference of opinion exists, it would be well to call in a third practitioner, or leave the client to select the one in whom he would wish to confide; at the same time, as every practitioner justly relies upon the correctness of his judgment, he should, when unable to concur in the treatment adopted, consistently and courteously retire from any further participation in the consultation or management of the case, unless exceptional circumstances intervene.

8. In consultations discussions should be regarded as private and confidential, and neither by word or manner should any of the parties intimate dissent from the treatment as unsuited to the case.

The responsibility and imputation of failure, however unjust, should, equally with the credit of success, be shared alike by the respective practitioners.

9. Whenever a second opinion is desired the attending practitioner should not demur, probably thinking a consultation evinces personal distrust in himself, as every man has an indisputable right to further advice if he wishes it; therefore it is well to share the responsibility with a second practitioner.

10. The consultant has no claim to be regarded as a regular attendant on the patient, and his attendance ceases after each consultation.

The client or his veterinary adviser is at liberty to call in any other consultant without the cognizance of the former, provided no appointment then exists.

N.B.—Should the practitioner who has been called in consultation be subsequently requested to take sole charge of the case he should courteously but firmly decline.

SECTION 5.—*The Duties of Practitioners in reference to Substitutes, and in incidental Interference with other than their own Patients.*

1. Veterinary medicine as an art and science is a liberal profession, and those admitted into its ranks should found their expectations of success in practice on the nature and extent of their scientific and personal qualifications, and not on artifice and intrigue.

2. When a practitioner, from motives of friendship or the necessities of business, is prompted to visit a patient under the professional care of another he should observe the strictest caution, circumspection, and reserve. No meddling inquiries should be made, no disingenuous hints given relative to the nature and treatment of the disease, nor any line of conduct pursued that may directly or indirectly tend to diminish the confidence reposed in the regular attendant. Indeed, such visits should be avoided.

3. When during sickness or absence from home a practitioner entrusts the care of his business to a professional friend the latter should make no charge, being virtually the *locum tenens* of the absentee. If circumstances permit, a fitting acknowledgment should be made.

4. When a practitioner attends for or in consultation with another, and it appears necessary to change the treatment, it should be done with the most scrupulous care, so as not to injure the reputation or wound the feelings of the previous attendant. *Un*necessary meddlesome interference with the treatment should be carefully avoided, as unjust to the attending practitioner and derogatory to true science.

(*To be continued.*)

XUM

CENTRAL VETERINARY MEDICAL SOCIETY.

A MEETING of this Society was held on the 1st November, at Red Lion Square, Professor Pritchard presiding. The following Fellows were present:—Professor Axe, Messrs. T. Burrell, T. G. Batt, H. W. Caton, G. R. Dudgeon, W. Roots, F. W. Wragg, J. Woodger, A. Broad, J. H. Brown, J. Rowe, Arthur Broad, C. Sheather, T. G. Chesterman, H. K. Shaw, and William Hunting.

Professor PRITCHARD addressed the Fellows as follows:—

Gentlemen,—Though I have felt great interest in the success of the Central Veterinary Medical Society, I have as yet done little to help it, beyond an occasional attendance; but I intend to do more. As you have honoured me with this post, I promise to do my utmost to make the Society's meetings interesting and profitable. My time is much occupied, but some of this time shall be sacrificed to enable me to fulfil the duties of my position worthily.

On an occasion like this it is usual for the President to make an address. Some dwell upon the year's work, some on the work accomplished by certain individuals; others enlarge on veterinary politics. I take neither of these topics for my theme, but one or two subjects which seemed to me suitable for bringing before you, as they are fit matters for discussion. One of them will, I have no doubt, provoke discussion; on the other point I expect more unanimity of opinion.

I have before now taken occasion to express my opinion that we are, beyond all others, our own enemies. Among veterinary surgeons there is far too little of that good-fellowship and single-mindedness which should exist among members of a common profession. It should be the privilege of veterinary societies to do away with this state of things: by fairly and openly discussing subjects, we should smooth away all differences arising from prejudice. Such an amount of discord is not to be found in other professions. However lawyers may differ from one another professionally, they are always ready to extend the hand of good-fellowship when outside the precincts of the courts. I hope to see more of this state of mind exhibited in our profession, and during my year of office it shall be my endeavour to promote such a desirable cordiality.

Of the two subjects I touch upon, one there is, as I have indicated, which will cause a difference in the opinions expressed; though I think this ought not to be. I allude to the "docking" of horses.

I throw down the glove with good feeling, and hope for fair discussion and a free expression of opinions. I look upon docking as an act of cruelty; and as the attention of the profession all over the country has been drawn to the question, I wish to enter into it completely. With my present audience, it is of course unnecessary for me to enter into details as to the manner of operating, but I will proceed to review the arguments that we hear in favour of it. Firstly, it is said that horses are more likely to get a long tail over the reins than they would a docked one. At first sight this appears a potent argument; but we should bear in mind that the long tail is in a natural condition, while the short stump is abnormal. The tail naturally tapers, and is, if let alone, elastic, its basement structure above being bone, while becoming cartilaginous towards the extremity. Now if an undocked horse gets his tail over the rein the flexibility of the tail allows of his removing it almost instantaneously, but if a short dock is put over the rein so little command has the animal over it that he cannot easily liberate the rein, but, instead, forcibly holds it down. We may take it as certain that a horse which has been docked has less power of free motion in the tail than has the undocked horse. Can any one say that less accidents take place with

docked horses? of course I mean comparing an equal number of docked and undocked horses. I maintain that comparatively more accidents occur with horses which have been docked. Not only is the tail slow in healing, but the tip remains very sensitive for months. This is a fact very evident to those who have lost a finger or have suffered amputation. Next it is said that in the hunting-field a long dock is objectionable; it throws mud and dirt over one, soiling the clothes, and in such a case what is to be resorted to but docking? I say that if there is a horse which will do this to any extent after the long hair is cut off it is a rare instance, and such an animal should be left at home. Then as to cart-horses, what reason can be adduced for docking them?

It may be asked, Are there any cases in which docking is justifiable? Certainly, as when we meet with melanotic tumours near the extremity of the tail, or in such a case as I recently operated upon, where the tail was denuded of hair, and a sore had been produced on each side of the tail from the animal's habit of "whisking;" then we may have a broken tail interfering with defæcation. But this I say, that in the majority of instances in which docking is had recourse to it is unnecessary; and as in this matter I appear to stand alone, I have brought the subject before you for discussion.

It appears to be considered that the point has only very recently been made a subject for legal decision; but the fact is that convictions for this offence have been obtained so long as five years back, and more cases will ere long be brought into court. Again, it need not be supposed that appeals against an adverse decision will meet with success: it has been attempted, and Sir Fitzroy Kelly on one occasion which I have in mind refused to reverse the decision of the lower court.

The other point on which I desire to touch is connected with the working of the Contagious Diseases (Animals) Act. If we have a patient affected with Glanders outside the authority of the Metropolitan Board of Works, and circumstances do not allow of its being buried, we are bound to get the permission of their inspector before the carcase can be taken to a London slaughter-yard; and not only this, but we must take it to one specified place, although another, which we may have reason to prefer, should be situated within a very few yards of the favoured slaughter-house. This is not the case if the horse is at a place within the metropolitan boundary, for then we have the choice of several slaughter-houses. Outside this boundary we have to obtain the permission of the local inspector, as well as that of the inspector appointed by the Board of Works, before we can convey the carcase into London: this occasions great inconvenience. I have not the slightest complaint to make against the inspectors individually, but I shall not let the matter rest, but bring it to notice in another quarter.

At the President's suggestion, it was decided to discuss the subjects separately, in their order.

Professor AXE said that on this subject of docking he thought there was no doubt that the President did stand somewhat alone. Cruelty, he said, signified the infliction of pain wantonly and unnecessarily. Now is it to be said that veterinary surgeons are, as a body, so lost to humanity as to be wanton inflictors of cruelty? Are we to understand that causing pain unnecessarily is cruelty? If so, then we often offend. What shall we say of neurotomy? Sensation is removed by the operation, and pain diminished, but at what cost? We lead to the destruction and death of the animal. If docking is to be considered cruel, neurotomy, he said, is ten times more so. He then asked, were there no other reasons for docking than those just adverted to? It certainly improves the appearance, and thus the value of the horse—a very mercenary idea, it will be remarked; but he was not, he said, so weighted with sentiment that he could not allow the commercial view of the case

XUM

to have its due value. It was to be remembered that English horsemen judge of horses as they have been accustomed to see their points. It may be rejoined that our view has become distorted; but if so it has been by the force of circumstances, and many years would pass over his head before he could relinquish his preference for present ideas. As to the prevalence of accidents, could it be laid down as a fact that, among a hundred docked horses more accidents would be found to occur than among an equal number of horses undocked? On this point nothing short of statistics was of any value; a mere statement was no proof, and had no weight. As to the remark of the President that the shortened tail could not be so easily freed from the rein, he said it would depend on who was driving. An expert would more quickly disengage the rein from a docked tail. It may be true, he said, that there was more flexibility in an uncut tail, because its most flexible portion had not been removed; but the docked tail had not the same power of covering and fixing down the rein that the long tail possessed.

He then pictured the state of the man in the hunting-field who might be mounted on an undocked mare which was in a state of œstrum, or on a horse with inordinate tail action; also of the unfortunate rider of such animals, should he have elected to wear a frock-coat at any time.

The long retention of a certain degree of sensibility after amputations was a known fact, but neither this nor the operation itself involved much pain. He detailed the structures divided, and said that they possessed a low degree of sensation.

He would be glad to see horses have the free use of all their members if practicable, and would leave them their tails if the removal of them could not increase the animals' comfort, value, or power of being safely used; but he would not do anything to lessen the value of horses without good reason.

Mr. SHEATHER said he differed from the President with regard to his views on this question, and he wished merely to give to the meeting a few facts—facts which he had observed over and over again in the course of his own experience. He adverted more especially to team-driving, and agreed with the President's remark that the long normal tail possessed great flexibility, but said he found that just for that reason it was more likely to get over the rein: the docked tail, moving more rapidly, merely knocked the rein on one side. Then when the undocked horse gets his tail over the rein it frequently cannot be got back, for the animal will curl his tail in and hold the rein fast; but it was not difficult, he said, to free the rein from the shortened tail. He had on many occasions done this from the box. It must be noted from which side of the tail the rein was under, and then "break the team" accordingly. He quoted an instance of a mare, undocked, getting her tail over the rein; the guard of the coach could not extricate it, and the mare getting excited, the team bolted, running for three miles. In another similar instance the coach was upset, and several passengers seriously injured. He was sure that in either case the rein could have been freed if the horse had been docked. The short, stumpy tail of the docked horse cannot be curled under as can the tail in its normal state. He quite endorsed the opinion of the President as to the importance, and necessity, of cultivating a friendly feeling in our mutual relations, and of fairly discussing questions such as the present. It was greatly a matter of pounds, shillings, and pence, the pain involved being but slight if the operation were properly performed. He did not now dock, but he considered that if any member of the profession were attacked for docking horses, it would be but a proper expression of good professional spirit for other members to abstain from appearing against him. He then referred to the great number of injuries to the tails he had seen among cab and van horses.

Mr. HUNTING said he was surprised to hear the last speaker say he would not dock a horse, while at the same time urging the necessity of the practice. The question was, Is there sufficient justification for the infliction of the pain? Several reasons had been brought forward to argue the necessity of docking. That of the splashed coat, frock or otherwise, would hardly be considered formidable; but the danger incurred in driving undocked horses, in certain circumstances, might hold. He would admit that there was but slight pain caused in the operation, though some after-pain was certainly felt. Shortened tails, he considered, were as apt to be whisked over the reins as long ones. The operation was, he said, undoubtedly done to suit popular prejudice. As to giving evidence, he should not consider it a duty to refuse to give his opinion against any one if the facts warranted him in doing so: such a thing was frequently done by professional men in cases of divergent opinion. He would think it a bad point in the profession to see a spirit of trades-unionism arise.

Mr. ROWE asked what operation might not be classed as cruel by the opponents of docking. Certainly he thought gelding should be equally decried: in France this operation was not resorted to, and he could not but admire their horses. Many of the minor operations on dogs might with justice be put an end to. He considered length of tail constituted an element of danger in driving, and that docking was necessary, though not to such an extent as may be seen practised on many hunters. He thought the length of portion removed had some bearing on the question.

Professor PRITCHARD considered no analogy could be drawn between docking and gelding. Our class of horses differed from the Continental, and required different management, or our streets would, he said, be rendered impassable. He could not but admire Mr. Axe's reasoning, but did not fail to read between the lines. The £ s. d. argument might be applied to the veterinary surgeon: it was frequently said, "If I do not operate, others will." He remarked that race-horses were not docked, and said there must be a reason for this. With regard to getting the reins under the tail, he would not ride with a man who would allow this to happen.

Mr. SHEATHER: Will not horses stumble, stop, or shy?

Professor PRITCHARD said he could not see any necessity for the rein to be caught by the tail. He agreed with Mr. Hunting's remarks on appearing in the witness-box; besides this, if subpœnaed, one was compelled to appear and give evidence.

Mr. BURRELL: Suppose you had not seen the animal?

Professor PRITCHARD said it was compulsory to give an opinion: he would qualify this by observing that before giving "*expert*" evidence you can demand your fee, but on simple matters of fact you must submit to be sworn, and give your evidence for the ordinary legal allowance.

It was proposed by Mr. WRAGG, and seconded by Professor AXE, that the remaining subject should be discussed at a future meeting.

The meeting terminated with a hearty vote of thanks to the President.

ALFRED BROAD, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE last quarterly meeting for the year 1883 was held at the Queen's Hotel, Leeds, on Thursday, the 18th October; the President, Mr. Joseph M. Axe, in the chair. The following members were also present, viz.:—Messrs. Naylor, Greaves, Jas. Freeman, J. S. Carter, J. W. Anderton, W. G. Schofield, Joseph Freeman, Peter Walker, J. H. Ferguson, Scriven, Lodge, Whitehead, Toop, A. W. Briggs, G. T. Pickering, Greenhalgh, and the Secretary. Messrs. Rowe, A.V.D., 11th Hussars; J. Carter, M.R.C.V.S.,

and Messrs. Somers, Kendell, and Sweeting were present as visitors. Apologies for non-attendance were received from Messrs. Dray, Danby, Hardie, Bale, B. Smith, and Parlane Walker.

The minutes of the previous meeting were read and confirmed.

The SECRETARY proposed, and Mr. FREEMAN seconded, the election of Mr. Geo. T. Pickering, York. Carried unanimously.

The PRESIDENT proposed, and Mr. J. S. CARTER seconded, the election of Mr. Chas. J. Reynolds, Mansfield, Notts. Carried unanimously.

The SECRETARY proposed, and Mr. JOSEPH CARTER seconded, the election of Professor Jno. Wortley Axe, as an hon. member of this Society. Carried unanimously.

The SECRETARY nominated Mr. F. Percy Carter, Bradford. The President, the Treasurer, Mr. J. W. Anderton, and Mr. W. G. Schofield were appointed as a deputation to represent this Society at the inauguration of Professor Williams' New College premises, in Edinburgh, on the 24th of October.

The subject of the Field bequest having been introduced by the Secretary, Mr. GREAVES explained the latest steps taken by the Council regarding the purchase of new premises, and the amount of subscriptions promised, etc.

Messrs. FREEMAN and ANDERTON urged the members to subscribe to the fund in a liberal spirit.

After further discussion, Mr. GREAVES gave notice of motion, "That at the annual meeting in January next he would propose a grant of fifty pounds from the funds of this Society towards the Building Fund of the Royal College of Veterinary Surgeons."

Mr. GREAVES made a few remarks as to whether the existing practitioners should be admitted members of veterinary societies; but as Rule 1 of this Society limits membership to graduates of a veterinary college, no discussion was necessary.

Mr. A. W. BRIGGS read a paper for discussion, "On the Docking of Horses' Tails," defending the operation when performed in a scientific manner by veterinary surgeons, etc., in which he drew attention to the fact that, by prosecutions and otherwise, the Society for the Prevention of Cruelty to Animals had expressed a decided intention of putting a stop to this practice. It was obvious, therefore, that, with this end in view, the Society had obtained a footing upon our platform, and he (Mr. Briggs) thought it would be wise for us, as a profession, either to extend the right hand of fellowship and sympathy, and help it onwards, or show a firm front and prevent, if possible, the invasion of our territory. At any rate, he thought the time had arrived for the ventilation of this subject through our various channels of communication, when veterinary surgeons, as a body, and as individuals, need not hesitate to say "Yea" or "Nay" to the importunities of their clients, with a full knowledge of acting lawfully and humanely. He argued that, from a strictly anti-cruelty or extreme humanitarian point of view, there could be neither legal nor moral defence to the operation of docking; but that, by blending humanity with utility, by exercising a fair measure of common sense, at the same time ever keeping in view the subservience of animals to man, and the safety of mankind, that docking in many instances became a justified operation. He further argued that because "animals were given us to use and not abuse," it did not of necessity follow that we were to use them in precisely the same anatomical condition in which nature presented them to us; otherwise there would be no justifying castration, an operation that even the most extreme humanitarians hesitated to attack. And why? Because humanitarianism must in such instances give place to utilitarianism. Yet we all knew of entire horses in daily work in almost every

town and village throughout the country. At the same time we readily admitted that by emasculating these animals we rendered them, from the stand-point of safety to mankind, more subservient to us. So also we all knew of undocked horses in daily work throughout the country, yet we were obliged to admit that by docking these animals we reduced the liability to accidents. Mr. Briggs went on to say that, as a profession claiming the motto, "Humanitas, scientia, utilitas," we had for years performed the operation of docking, and our students had been instructed therein at the teaching schools, and subsequently examined therein; consequently, one might have concluded that the operation was humanitarian, scientific, and useful. Finally, he contended that there existed a great liability to accidents in the use of undocked horses, more particularly in the use of harness horses, and that the degree of safety guaranteed by amputation more than counterbalanced the amount of pain inflicted, and justified and made lawful the operation.

Messrs. GREAVES and JAS. FREEMAN thought the operation caused unnecessary pain, and that we were acting against the provisions of nature, etc.

Mr. SCHOFIELD thought the pain attendant upon docking very small, as he used pressure to arrest the hæmorrhage.

Mr. ROWE was of opinion that veterinary surgeons should have the discretionary power to decide when the operation was necessary. He applied a pledget of tow soaked in Tinc. Ferri Perchlor. to arrest the hæmorrhage, with the very best results, and he therefore thought the attendant pain was reduced to a minimum.

Messrs. ANDERTON, P. WALKER, and FERGUSON were of opinion that veterinary surgeons, as scientific men, were quite capable of performing the operation in a scientific manner, almost without pain.

Mr. WALKER wished to know if a newly-docked horse could be considered sound.

Mr. TOOP said he had attended three cases of Tetanus, arising from docking performed by other persons, within the last twelve months. Had also attended a case of fibroid inflammation of the tail, arising from docking.

The PRESIDENT had docked hundreds of horses, and was of opinion that the attendant pain was very little.

Mr. NAYLOR was of opinion that we were perfectly justified in performing this operation when necessary and useful.

After some further discussion, Mr. SCHOFIELD moved, and Mr. JOSEPH CARTER seconded, the proposition, "That, in the opinion of this meeting, the operation of docking horses' tails, performed in a scientific manner, is perfectly justifiable, and not necessarily cruel." There were twelve for, two against.

Mr. NAYLOR exhibited an interesting morbid specimen of Fractured Os Pedis, also related an instructive case of Intestinal Tumour.

The PRESIDENT proposed, and Mr. CARTER seconded, a vote of thanks to Mr. Briggs for his kindness in introducing a subject for discussion. Carried unanimously.

The TREASURER submitted the financial statement, showing a balance in hand of £130 14s. 10d.

The election of officers for 1884 resulted in Mr. Parlane Walker being unanimously elected the President; Messrs. J. M. Axe, ex-President, Anderton, and B. Smith, the Vice-Presidents: the Secretary and Treasurer were re-elected.

The SECRETARY proposed, and Mr. NAYLOR seconded, a vote of thanks to the President for his efficient conduct in the chair during the year. Carried unanimously.

Refreshments, by invitation of the Leeds members, were provided at the conclusion of the business.

THE NORTH OF IRELAND VETERINARY MEDICAL SOCIETY.

(*Continued from page* 380.)

Neuro-Spinal Lesions of indeterminate origin, i.e., Chorea, Immobilitie, Tetanus, Cramp.

The first of these affections, as you are aware, is most usually seen in the dog, and the second in the horse, while the two last are common to all animals.

Chorea and Immobilitie may result from systemic disorder, as Distemper in the dog or Influenza in the horse, (leading to spinal softening, effusion, thrombosis, or embolism) to some local lesion, such as concussion or violent strain; or to idiopathic spinitis. Both conditions have a tendency, when once established, to become permanent, and both are aggravated by adverse conditions; while Chorea of a most exaggerated type is occasionally produced by some sudden fright or violent emotion.

Treatment.—In the early stages of these affections the greatest good results from the application of stimulating anodyne liniment and hot fomentations along the whole course of the spine, conjoined with the administration of chloral hydrate and repeated small doses of belladonna extract and succus conii, the influence of the two latter agents being sometimes magical in the case of Immobilitie. A very useful adjunct is the use of prussic acid enemas.

The administration of belladonna must be persevered with until the acute symptoms have passed off or until the spinal hyperæmia by which they are caused, and which is indicated by retinal injections, is overcome. If the belladonna gives no relief, large doses of arsenic may be substituted with potassic bromide as a nerve-depressant or this agent and chloral hydrate. If the symptoms from the history and course of the case are due to effusion, potassic iodide should be substituted for the bromide and a strong irritant applied along the region of the spine.

The pathology of Tetanus is still an unsettled question. One thing I have invariably found on *post-mortem* examination, viz., intense capillary hyperæmia of the spinal cord and its sheath; this in traumatic Tetanus being confined to the region of the cord corresponding to the part in which the wound is situated, *e.g.*, the cervico-dorsal region in injury to the fore, the sacro-lumbar region in the hind limb. This hyperæmic condition is indicated as in the case of acute Chorea and Immobilitie by retinal injection.

In the treatment of Tetanus the same rules as those laid down in the two first affections are applicable, viz., the reduction of the hyperæmia and of the spinal irritation, the former by belladonna or atropia, the latter by hot anodyne applications to the spine and large doses of potassic bromide. The local irritation is best relieved, not as is so frequently attempted by the application of belladonna and allied agents, but by the use of the potential cautery (nitrate of silver in preference) and, where necessary, making a fresh wound before applying it. The envelopment of the whole body in hot wet blankets for forty-eight or sixty hours consecutively, has a great influence in moderating the nervous irritation.

In sub-acute cases large doses of nux vomica or strychnine, combined with potassic bromide and forced exercise, will sometimes give very good results.

Cramp.—Tonic, other than tetanic, and clonic, is frequently met with in practice, and its origin is often obscure; it usually affects groups of muscles. Clonic Spasm is easily combated by the local application of belladonna liniment, with friction, and hot fomentations, subcutaneous injections of atropine, or internal administration of belladonna; but tonic spasm is not

XUM

so easily combated, and in one case where every other remedy failed the administration of large doses of strychnine, with forced exercise, rapidly effected a cure.

Purpura Hæmorrhagica.

Two forms of this affection are met with, viz., the vascular and the serous. The two may, and usually do, co-exist, though the lesions, as a rule, of one form are more prominent than the other.

The former is due, most largely, to alterations—owing to mal-nutrition—in the capillary walls, rendering them incapable of withstanding the pressure of the blood, and thus inducing spontaneous hæmorrhage of a more or less extensive character. The latter is due, either to an excess of serous fluid in the blood or diminution in the amount of colloids, or to the presence of some matter which exerts an injurious influence upon the colloids, and thus favours effusion.

The predominance of either of the characteristics mentioned must guide us in the choice of therapeutics. At the outset, in either forms moderate purgatives, diuretics, diffusible stimulants and eliminatives are useful; subsequently, turpentine, ferric perchloride, ergot of rye and quinine or cinchona are our best remedies in the vascular form, and turpentine with potassic iodide in the serous form. In each moderate doses of mercurials are indicated when icterus exists; ammonia, and brandy or whisky when the action of the heart is feeble; opium when colicy symptoms set in; powerful stimulants when the respiration becomes difficult, with nutritious matter of any easily assimilable character, as eggs, milk, blood serum, soup, stout, etc., when great debility is evidenced.

Locally.—Whenever the serous swellings are extensive, puncturing—not deep or extensive scarification—or draining with canulæ may be had recourse to, with hot fomentations, and the frequent application of carbolised stimulating lotions. If large wounds are made the air gains admittance and sets up cellulitis, which may be followed by diffuse gangrene. In hæmorrhagic swellings great care must be exercised in the use of the needle or lancet. Frequent applications of carbolised arnica and liquor plumbi lotion are preferable—with antiseptics and stimulants (as the creosote liniment) when sloughing takes place; and the borax and alum lotion when serous transudation is marked.

Bleeding.

Had time permitted, I might have materially extended the list of diseases with which I have dealt, in a general way, therapeutically. All that remains for me to do now is to make a few general remarks on the subject of bleeding, and in doing so I shall incidentally allude to the treatment of several important affections.

It would not be profitable either to you or to myself to enter into a discussion as to the great change which has come over the medical mind during the last century on the subject of bleeding. Suffice it to say that, as with many other valuable systems, it was converted into a hobby in days gone by, it was over-ridden as such, and it has shared the fate of all hobbies, though in my opinion very undeservedly so.

In medical practice one can see that there is a slight revulsion of feeling as to the value of blood-letting. In veterinary practice great differences in opinion are held as to its utility, some practitioners condemning it *in toto*, others extolling it as a remedial measure; and perhaps occasionally in their enthusiasm falling into the errors of our forefathers by abusing it.

In medicine, as in most other things in this life, there is a medium, and I think that it is a far safer course to follow than are extremes; but, unfortunately, it occasionally happens that one or two leaders in a profession con-

XUM

demn customs of old-standing and they soon find plenty of sheep to follow them.

At the outset, I must most strongly assert that there is no one force in the armament of the veterinary surgeon capable of giving so much relief as blood-letting when judiciously employed. Not blindly having recourse to it in every desperate case which may come under our notice, not adding debility to debility in that great class of asthenic affections, fevers, nor expecting that by abstracting a given quantity of the vital fluid we are going to rid the system of the virus or ferment which may be the actual cause of disease. Not draining the life blood away when its most valuable portions—white corpuscles and colloids—are being gradually abstracted from it in the form of pus, nor weakening the propelling power of the heart when extra force is required. No, gentlemen; it is as a nerve and nervo-muscular depressant, and consequently as a vascular moderator, that blood-letting is of so much value to us; not from its having any specific virtue in itself, but by its exerting a powerfully mechanical influence upon the circulation, are we to expect good from this operation, and it is more to the purely mechanical effects of the operation than to any other that I wish you to direct your attention.

The moderation of blood-pressure was one of the great arguments of the supporters of venesection in the past. Perhaps they estimated this action too highly, and consequently fell into error. Nevertheless, and in spite of attempts which have been sometimes made to disprove any such influence, they were not altogether in error. Granted that its dynamical effect in this direction is somewhat evanescent, the relief it affords by temporarily modifying the pressure is often striking, and, what is of more importance, is often lasting. Not only this, but as has been pointed out by several writers, more especially perhaps Geuzner of Halle, the moderation of this pressure, the removal of the block, and the equalisation of the circulation in commencing inflammation, favours the nutrition of the involved tissues, or even restores them to their normally nutritive state; and, as it is now well known, perversion of nutrition is the most important phenomenon attending inflammation.

It has often been asserted, again, that the withdrawal of a certain amount of blood from any particular part can have no influence on disease, as the vessels quickly refill; but the assertion is negatived very frequently and very pronouncedly in practice, as I shall endeavour to show you. Certainly, the assertion savours more of truth when applied to systemic, than when applied to local bleeding. The great value of the latter in relieving pain, in arresting inflammation and in restoring the circulation in congestion, no person who has given it a fair and unbiassed trial can doubt. The human surgeon has a great advantage over the veterinary surgeon in this respect, as he can call into requisition the leech and the cupping-glass; we cannot do so, but we have our lancet, it is equally useful to us, and perhaps in the form of puncture and scarification often relieves tension, as in acute coronitis and periostitis, where the other means mentioned would not. It is not only by the restoration of the circulation, but by the relief of tension on the tissues themselves that we derive so much benefit from local bleeding; and bear in mind systemic venesection, as we are in the habit of calling it, *i.e.*, jugular phlebotomy, is often really local, as in brain and lung affections: and although blood may not be drawn directly from a point, its influence for good is often very great and even lasting. Nature herself sometimes acts as a phlebotomist, *e.g.*, in the spontaneous hæmorrhages which take place from the stomach of the dog (and for that matter of man) in the form of Hæmatemesis in congestion of that organ; in the Epistaxis which results from repletion of the vessels of the nasal chambers and in obstructive heart disease; in the Hæmoptysis of Pulmonary Congestion and Pneumonia, and in

the Proctorrhœa (*i.e.*, bleeding of piles) in Congestion of the Liver. If, however, you feel inclined to say, we want more direct evidence of its value than this, I will give it you clinically, but before doing so I will allow science to speak. I have already referred to Dr. Guezner's remark as to the effect of local bleeding on nutrition ; if you turn over the pages of the *Veterinarian* for August, 1882, you will find a record of some very accurate observations made by him on the effects of local bleeding in inflammation of the web of the frog's foot. Dr. G. tells us, that if inflammation is set up in this structure the stasis may be removed and the blocked vessels emptied by applying a leech to the limb ; not only so, but owing to the withdrawal of blood from the blocked vessels, hyperæmia results, and the free and rapid flow of blood sweeps away the leucocytes clinging to the walls of the vessels and arrests diapedesis.

I have already referred to the value of blood-letting in Rheumatic Laminitis, in Laminal Congestion, in Acute Laminitis, in Ophthalmia and in Syndesmitis and Bursitis, with which we may couple Acute Arthritis : it is equally valuable in Acute Mammitis, Orchitis, and Glossitis, not only by the abstraction of blood systemically (or from the superficial abdominal veins in the two first affections), but by local scarification and punctuie ; in all, the relief afforded being due as much to the removal of tension as it is to the mere removal of blood from the engorged vessels.

It is of great use in *deep-seated Acute Coronitis* in the horse, associated with Sand-crack; or from other causes ; or in the ox as the result of over-exertion on hard roads, or of Foot-and-mouth Disease ; frequently giving instantaneous relief and warding off suppuration.

In *Phrenitis*, bold venesection will relieve when other remedies prove useless ; in the premonitory, and indeed in the earliest pronounced stage of Parturient Apoplexy, we have no better adjunct to other treatment, but it is useless, and even hurtful, in the later stages ; indeed it cannot be performed.

In *Cerebral Congestion*, whether resulting from gastric derangement or any other cause, jugular venesection is indicated.

In *Lung affections* of an asthenic type, bleeding is contra-indicated. In *Bronchitis* and *Broncho-pneumonia*, it is only permissible when the condition of the pulse and the venous circulation is such as to indicate absolute stasis, and even here it must be cautiously employed and associated with stimulative treatment. In the pig it is often of great value when the skin becomes blue, discoloured and cold.

In *Pulmonary Congestion*, much as it may at first sight be thought that it is called for, it is unnecessary ; bold stimulants, free supply of fresh air and flying blisters accomplish all we desire ; indeed, I have sometimes had reason to believe (in the horse, at least—not so in the pig) that it has favoured cardiac valvular clotting.

In *Croupous Pneumonia*, no good results in the acute stage from the adoption of venesection. I remember bleeding a powerful grey stallion belonging to Wombwell's Menagerie three times without producing the slightest effect upon the pulse or respiration ; but in the advanced stages, when the superficial veins are turgid, and when no relief is afforded by ordinary measures, the abstraction of blood, *preceded and followed by a bold stimulant and a rousing external irritant*, will sometimes snatch our patient from the jaws of death. In the great majority of cases of Sthenic Pneumonia, the therapeutic indications are, to reduce the fever by the use of apyretics, as salines, tincture aconite, and chloral hydrate ; the latter, or opium, being especially indicated when the pain is evinced by grunting and uneasy movements ; to favour secretion and give a fillip to the cardiac and respiratory centres by the use of ammonia, and, if necessary, alcohol ;

XUM

to arrest undue hæmorrhage by the judicious use of ferric perchloride with brandy, and to moderate excessive coughing by the use of ipecacuanha, potassic bromide, or morphia; applying externally flying blisters with hot fomentations according to the condition of the patient.

(*To be continued.*)

THE SCOTTISH CENTRAL VETERINARY MEDICAL ASSOCIATION.

THE seventh quarterly meeting of the above Association was held in the Crown Hotel, Dundee, on the 16th October; Mr. Andrew Spreull, of Dundee, President of the Association, in the chair. The following members were present, viz. :—Messrs. Black, Lochie; Hampton, Arbroath; Hunter, Dundee; Constable, Inchture; Bessit, Brechin; Philp, St. Andrews; and Clark, Secretary, Coupar Angus.

The minutes of the previous meeting were read and confirmed.

The CHAIRMAN next called on Mr. Bessit to read his notes of important cases, which included two very interesting cases of diseased bowels in horses, and a very unique and successful dental case in the horse, which resisted every effort to effect a cure, until Mr. Bessit filled the cavity with gutta-percha, resulting in a complete and satisfactory recovery.

The SECRETARY next read notes of four cases of Azoturia. Both papers caused a most profitable discussion. JAMES CLARK, *Hon. Sec.*

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Society was held in the Veterinary College, Glasgow, on Wednesday, October 24th; the President, Mr. Campbell, Kirkcudbright, in the chair. The following members and friends were present :—Messrs. Pottie and Houston, Paisley; Douglas, Dunoon; Macfarlane, Greenock; Peddie, Cathcart; Taylor, Cathkin; Constable, Inchture; Weir, Airdrie; Kerr, Dalry; Nisbet, Galston; Hadden, Biggar; Allan, Clarkston; McIlwraith, Milngavie; Pollock, Hamilton; Brown, Neilston; Bowie, Stranraer; W. Anderson, jun., J. Weir, Boyle, Wyper, Blue, Tweedley, Frew, Dickson, McLean, G. Pollock, Lees, and the Secretary, Glasgow.

The minutes of the previous meeting having been read, amended, and approved, the following gentlemen were proposed and elected members of the Association :—Mr. McConnell, Castle-Douglas; Mr. Bowie, Stranraer; Mr. McIlwraith, Milngavie; and Mr. Nisbet, Galston.

The PRESIDENT, having intimated that Mr. Robinson, jun., Greenock, would read a paper at next meeting, delivered the following address :—

Gentlemen,—In taking the chair as President of this Society allow me to express my thanks for the high and unexpected honour you have conferred upon me; and although I have a natural diffidence in approaching its duties, suggestive of my inability to perform them in the same zealous and efficient manner as those gentlemen who have preceded me in this chair, yet, in the anticipation of your indulgence, and with such an efficient staff of office-bearers able and willing to make up for my shortcomings, I am confident the work of this year will be brought to a successful termination; and I shall hope for a continuance of the same kindness and consideration as you have so freely bestowed upon my predecessors, for which I will endeavour to prove myself worthy. My highest ambition is to make myself useful to members of my profession by laying before you what little experience I have gained,

so as to add to the general knowledge, and thereby promote the interests of our Association and the progress of veterinary science. For is it not the duty of one and all of us to add our mite, so that it may be safely said that we left the profession better than we found it?

I will now draw your attention to the rapid progress made in veterinary science within the last few years. Not many years ago it was simply a profession for the cure of disease: now our functions are extending, and it is felt that we should not only be able to cure disease, but that we should also use means to prevent it. It is now recognised as one of the institutions of the country, and rightly so, for in its hands is placed to a great extent one of the principal sources of the wealth of the nation—viz, its domestic animals. It is a profession which is expected to extend its sphere beyond that of medicine. Are we not closely allied to agriculture? and, with our knowledge of anatomy and physiology, should be largely instrumental in developing and in perfecting the various breeds of animals in our districts, so that if our opinion be asked in selecting a fitting sire for a certain dam, and we judge from their anatomical conformation, we cannot go far astray. It is necessary that we should be good judges, and to attain such celebrity it would be well to pay particular attention to the various points and qualities, and be able to discriminate between the good and indifferent. We are not only acquiring a better knowledge with regard to the treatment of disease, but we are also doing a good deal towards the prevention of diseases, especially with regard to those epizoötic and enzoötic diseases which produce such ravages amongst our flocks and herds, as well as the equine species. A very important subject as affecting our domestic animals, and also, I fear, the pockets of the agricultural community, and thereby causing a national loss, was introduced by Captain Russell at the Veterinary Congress—"Suggestions for effective legislation for the prevention of contagious diseases in animals." How ineffective the Contagious Diseases (Animals) Act of 1878 is, most of us have had some experience. But I do not myself so much blame the Act (which I think a fairly good one), as the piecemeal way in which it is worked. When, as is the case in some counties, men totally unacquainted with the rudiments of science or of the diseases of animals are appointed to carry out this Act, probably with the advice of a chief constable at head-quarters, we cannot wonder at its comparative failure, and that those who have to suffer complain of the restrictions to which they are subjected for apparently no good purpose. To render the Act effective it must be applied in all counties alike. Only duly-qualified veterinary surgeons should be appointed as inspectors, and they should have the assistance and advice of sub-committees of practical farmers—one in almost every parish—with an executive committee at the head of affairs. With the appointment of such inspectors, and the assistance of such committees, larger discretionary powers should be given, as all of us who act as inspectors must feel that the special circumstances of some cases require different restrictions and methods from others. Police officers should assist the inspector when necessary, and the question of slaughter in some diseases, especially Pleuro-pneumonia, Epizoötica, and Swine Fever, should, with general instructions, be left in the hands of the local committee, with the advice of the inspector. Such are the outlines of what the working of the Act ought to be.

Within the last three years science has been startled by the grand and important discoveries of Koch, Pasteur, Chauveau, and others. In 1876, Koch, while endeavouring to find out the cause of anthracoid diseases, discovered in the blood a minute organism, which he described as a rod-shaped body of a homogeneous transparent matrix about the length of a blood corpuscle, which he termed *Bacillus Anthracis*. Then followed Pasteur, with his wonderful experiments with this *Bacillus Anthracis*. He found

XUM

that after cultivating the bacillus in an organic solution as chicken broth, and repeating the operation until the fourth or fifth cultivation, then allowing the cultivated solution to stand over for a week, it becomes so attenuated as to be safely injected into the blood or used for inoculation, and he has proved to a demonstration that animals so operated upon are proof against another attack of Anthrax Fever. Such discoveries will have a tendency to revolutionize the theory of many diseases and their treatment. Specimens of the following bacilli are obtainable:—*Bacillus Anthracis*, *Bacillus Tuberculosis* from cattle and from the human subject, *Typhoid Bacillus*, *Bacilli* from Septicæmia, Diphtheria, Sheep-pox, also putrefactive bacilli, and several forms of micrococci. From the foregoing discoveries there is every prospect that in course of time we shall be able by means of the different viruses of disease to make disease its own antidote by a process of inoculation.

Certainly we are indebted to our Continental brethren for these valuable discoveries. But you must take into consideration the circumstances under which these Continental veterinarians are placed. Nearly all the veterinary institutions of Europe (Great Britain excepted) receive State aid—in fact, are solely kept up by their respective Governments; and I am sure if any of you would take a trip to the Continent (as I did last year), and visit these Government institutions, you would blush for your country, and probably return home steaming with hot indignation that our Government have not, like other nations, recognised the importance of our veterinary teaching institutions, and the noble efforts of our President and those that sit with him in council. Surely it is time the veterinary profession should receive some substantial recognition. Are we not making rapid progress unaided? and is not our position rapidly improving? Not only are we rising in the estimation of the public, but we are compelling the admiration and attention of our sister profession—I mean the medical profession—and, as Dr. Fleming says, "the time is not far distant when the veterinary profession will stand hand in hand with the medical profession, as protectors of the public health and defenders of the public wealth." A great deficiency in our professional literature is gradually being supplied. Not many years ago we could not obtain a standard work on veterinary science, whereas now every veterinary surgeon who makes his profession a study will have no difficulty in filling his shelves with modern works by the leading men of the profession, also the editors of our journals keep us well posted up with all the recent scientific discoveries.

Within the last two years a great deal has been said, and much written, regarding the education and training of the veterinary student. I think it is our duty to tender our thanks and gratitude to Dr. Fleming and other members of Council for the zeal, energy, and stern integrity exercised by them in order to raise the veterinary profession to a level with other learned professions. Has the status of our profession not been raised by the action of Council in passing a bye-law, which is now in operation, that all students before entering our colleges must undergo a matriculation examination in general knowledge, also that the minimum period of study necessary to obtain the diploma extend over two years and a half, instead of two sessions of six months each, as heretofore? so that now we have young men entering the profession with a higher standard of education, and a good knowledge of the different subjects taught in our colleges. Such men, with refined tastes and exalted views, will take their position in society and prosper, and without doubt to the want of these attainments is due the non-success of many graduates of the Royal College of Veterinary Surgeons.

I have no desire to enter into a discussion on veterinary politics. Nevertheless, it might be advisable that I should take advantage of this opportunity to give an opinion on the pupilage system. This I can give in very

few words—not that I speak from mere fancy, as some of our teachers can testify that I have had considerable experience in the practical training of veterinary students. I perfectly agree with the popular feeling that every student should undergo a period of practical instruction before receiving his diploma. But the question is, When or how should the student receive such training? And in coming to a conclusion you should take into consideration the circumstances of the student as well as the demands of the majority of the profession. If the Council of the Royal College of Veterinary Surgeons show themselves to be guided by the promptings of some members of the profession, and compel every student to undergo a three years' pre-collegiate apprenticeship, the consequence would be to affect the attendance at our colleges to an alarming extent, simply because the professional training of the veterinary student would then be more expensive than the medical or other learned professions. If I venture an opinion on this subject, I should say, Let the student go to college first and complete his professional studies, then let him serve one year with a veterinary surgeon in a good mixed practice, and I doubt not that he could be taught more in three months than it is possible to teach him in a lifetime without the scientific knowledge of his profession. I also think it advisable that every student should place himself under a veterinary surgeon during the summer recess. How impossible would it be for a student to detect a functional derangement or morbid condition of any organ when he is not conversant with the healthy condition of that organ. If you carefully inquire into the qualifications of any young man who has served a three years' apprenticeship, what does he really know. Simply the work of an ordinary groom or stable-boy. Surely it does not require three years to teach an intelligent youth to groom a horse, bandage his legs, give a ball or drench, lift his feet, rub on a blister, detect simple lameness, perform simple operations, and compound simple medicines, etc. So much for pupilage: now a few words on the Association. The advantages to be derived from attending the regular meetings of an Association like this are obvious. Here we meet for social intercourse and mutual benefit. One reads a paper or gives a communication on a case that has come before his notice, and which some of us have not seen; another gives his experience concerning the same; and, after full discussion and minute investigation, we, as a whole, generally arrive at such conclusion as is most advantageous to the patient and science in general. I now ask one and all of you to stretch out a helping hand for the good of the Society. Our principal motive in meeting here is to gain knowledge, and in so doing let us be equally willing to impart it; let no member hide his light under a bushel, but freely let it shine for the benefit of the profession; let harmony prevail amongst us, so that we may be united in our actions both socially and politically.

There is a study I should like to stimulate in this Society; that is the study of Morbid Anatomy, and to those who may be present here to-day that have not commenced that branch of science I will direct my remarks. I can assure you it only requires a beginning to make you fond of it, and nothing would give me greater pleasure than to see a collection of morbid specimens belonging to this Society. The use of the microscope is not only useful to you in the practice of your profession, but it may be the means of supplying a healthful recreation whilst expanding and refreshing the mind, and who knows but one of you may be the means of benefiting science? I am proud to see that this branch of science is now taught in all our colleges, and I have no doubt that if any of you were in difficulties as to the practical details of preparing, hardening, cutting sections, mounting specimens, or manipulating the instrument, any teacher of Morbid Anatomy would only be too glad, I am sure, to render you every assistance. You are aware it is as easy for a man

to cut fifty sections as one when you have the specimens prepared and in the microtome; and if we cultivate a system of circulating our specimens or exchanging one with another, it would not only augment our stock of morbid specimens, but be beneficial and instructive to us.

Before concluding, I wish to draw your attention to the results of the meeting of the three Scotch Associations, held in this hall last year. The principal topic before that meeting was, "How Scotland was represented at the Council of the Royal College of Veterinary Surgeons." The consideration of this subject occupied the greater part of our sitting, and after an animated discussion, in which Professors McCall, Williams, and Walley took part, the meeting unanimously recommended that three Scotch veterinary surgeons should be nominated, which was accordingly done, and you know the result. It was evident by the feeling at that meeting that although we Scotch veterinarians were in a helpless minority, the members of the profession would recognise Scotland's just claim, and elect our nominees to seats in Council. But these fair hopes have vanished, and the constitution of the Council remains unaltered, viz., London returns 10; English cities or provinces, 11; Ireland, 1; Scotland, 2. The Council elect the Vice-Presidents as follows:—Gentlemen in London, 2; gentlemen in English provinces, 4; total, 6. I only speak the sentiments of veterinary surgeons residing in Scotland when I say the Council is not a representative body as it is at present constituted; and seeing that Scotland annually educates more veterinary surgeons than England, that should in itself be cause sufficient to cherish a feeling of justice and fairness in our brethren across the border. True, many members of Council are Scotchmen, although settled in England; still, I hold that immediately a man crosses the border and fixes his domicile in England, Scotch interests then become a secondary rather than a primary consideration. And this fact is well demonstrated by the two gentlemen who represent Scotland in Council, who are not Scotchmen, but whom we recognise as naturalized countrymen, and in whom we have every confidence in fighting for or protecting our claims. From my preceding remarks it is evident I admire the ability and energy of the Council; but while considering we could not elect a board of better councillors, might it not be possible that a representative Council would be equally good? And I beg to prognosticate the day is not far distant when we shall have a distribution of seats, and that we shall be represented in Council as we are in our great national assembly, Parliament.

If asked an opinion as to how I would distribute the seats, I would answer, Let England have 12, Scotland 6, and Ireland 6.

I intended to have brought before your notice the importance of the National Veterinary Congress, and that valuable Act of Parliament the Veterinary Surgeons' Act; but having already trespassed too far, considering the limited time at our disposal and the amount of work yet to be gone through, I will postpone the consideration of these topics until another meeting.

The usual vote of thanks terminated the proceedings.

J. MACQUEEN, *Secretary.*

ROYAL VETERINARY COLLEGE MEDICAL SOCIETY.

THE annual meeting of the above Society was held in the Theatre of the College, on Monday, October 8th, 1883.

The President, Professor Robertson, occupied the chair. There were present a large number of members and visitors.

After the election of new members, the PRESIDENT addressed the meeting at some length. He enlarged on the individual and natural advantages of such societies, and generally reviewed some of the principles on which indi-

viduals and communities are related to each other. The meetings of the session which had passed had always been sources of pleasure and profit to himself. He looked back on the past of the Society with satisfaction, and on its future with cheerful hope. The past had proved to them what could be done, the future was to be largely of their own making. In order that the maximum of benefit might be gained every one should come to the meetings specially prepared on the subject to be brought under discussion. The freest expression of opinion on matters brought forward was always to be maintained, and everybody's opinion was entitled to respect. The merest tyro in medicine had an equal right to hold and express his views with the grey-haired veteran, as long as they were supported by facts. We must remember medicine is not an exact science. Egotism and selfishness would be decreased in us as we met oftener under such circumstances as the meetings of the Society afforded opportunity for. He was thoroughly convinced of its usefulness, and it had his warmest sympathies.

He then called on the Secretary for his report.

Secretary's Report.

Mr. President and Gentlemen: It affords me very great pleasure to offer you a brief report of the proceedings of your Society during the past session, as I regard the retrospect as rich in matter for congratulation and encouragement. The origin of the Royal Veterinary College Medical Society is so well known to the majority of you that the narration of any details relative to its formation and the principles on which it is based would be irksome and superfluous. Suffice it to say, for the benefit of any new comers amongst us, that "the reason to be" of such an institution was in the expressed wishes of the students of the Royal Veterinary College. This want of a medical society—one in the government of which students, being constituent parts of the Society, should have a voice and vote—being made known to the Principal, Professor Robertson, as the wish of many whose conduct had proved their discretion and zeal in prosecution of the search for knowledge, met with that cordial approval and promise of support which are ever vouchsafed to anything considered likely to conduce to the comfort and advancement of students of the College.

After a series of meetings of teachers and students the Society was founded on the basis set down in the book of rules, a copy of which is presented to each member. The objects of the Society are "the mutual improvement of its members; particularly to facilitate and encourage amongst them the study of medical science in all its branches." The government is in the hands of a committee composed of the teachers and twelve students—members chosen with a regard to the representation of each class at the annual meeting.

At the first meeting, Professor Robertson was chosen President of the Society, and every one who was privileged to sit under his presidency will, I feel confident, agree with me that, if time and ability permitted, too much could not be said in praise of the countenance and more material support which he has bestowed on the Society. The success of the meetings—every one of which the President attended—is, in a very large measure, due to the information and interest imparted by him. At the same time the honour was done me of being elected your Treasurer and Honorary Secretary. As regards the duties of the former office, they have been trivial, and the accounts, which are to be audited under your direction, will show a good working balance in favour of the Society. The latter position (Secretary) has proved no sinecure; but the consideration and co-operation of every member have rendered easy and agreeable as possible duties which, under other conditions, might have proved tedious. The assistance rendered by Mr. W. H.

XUM

Bloye, who was chosen Assistant Secretary, has been of the most substantial character. I beg now publicly to thank this gentleman, whose efforts for the advancement of the Society cannot be too highly eulogised.

On the representation of a deputation, introduced by your President, the Governors of the Royal Veterinary College have kindly placed at the Society's disposal a place for holding meetings, and intimated that when sufficient evidence of the solidity of the establishment has been given them that other substantial aid shall be forthcoming.

At the first general meeting the following gentlemen were elected by ballot as a committee with the teachers, being members of the Society, to manage its affairs :—Messrs. E. W. Baker, Harvey, Pemberton, Snowball, Hartley, Blenkinsop, Oliver, Morton, Parr, Haydon, Hazelton, and W. R. Walker.

In the same manner the following were chosen to act as vice-presidents : —Messrs. E. W. Baker, Blenkinsop, Parr, Morton, Hartley, Snowball, and the Assistant Secretary *ex-officio.*

It was decided that prizes be offered for competition on the subjects to be named when reading the list of awards.

During the second winter term there have been eleven ordinary general meetings of the Society, at which fifteen *post-mortem* specimens have been introduced, and nine essays read and debated upon. These meetings have been attended on an average each night by twenty members and four visitors. Nine fellowship certificates have been awarded for essays written and defended, and, in addition, eight certificates of membership to gentlemen now holding the diploma of the Royal College of Veterinary Surgeons. There are the names of fifty-four gentlemen who have sought election; but as fifteen of these have omitted to pay the amount of their subscription, they cannot, until this condition has been complied with, be admitted to the full privilege of membership.

Gentlemen, much doubt has been exhibited as to the possibility of carrying on a society largely managed by those holding the position of students. For my own part, I am convinced that what is pronounced by some an unwise concession is only a right, and am hopeful that it will prove a help in approximating an imaginary gulf existing between the reasoning powers of gentlemen who sit on these benches, and those of others who have come into actual possession of that coveted document—the diploma of the Royal College of Veterinary Surgeons, whose power to grant dignity and reason with the signatured document I am somewhat sceptical about.

If I may so express myself here, I would say, few men require to possess more self-reliance and decided, well-founded opinion than he, the exercise of whose profession calls him to cut down within the hair's-breadth of a fatal mistake, to commit off-hand in writing his opinion as to the soundness of a valuable animal, or to stake his reputation on deciding whether a certain action under his control will admit into a country a devastating contagious disease and its widespread loss to the community and their odium on him. The acquirement of business habits, of the power of dealing with range of matters, of the ability to express one's idea intelligibly in public, can only be brought about gradually and demand that we should educate our resources. To have a share in the management of such an association as ours directed by the counsel of those to whom age and experience have given the qualifications to advise is, in my opinion, likely to be fraught with advantage to those who devote their time to the work and with benefit to the Society. It is too lately that I sat on the other side to have forgotten that all requirements and wishes of students are better and more fully known to those who are actually experiencing them than to their teachers, whose position and duties render such knowledge impossible to them from any other source.

The interest evinced in the meetings by one and all is in itself a sufficient

guarantee that the matter which occupied the attention of the members was valuable and appreciated, and augurs well for the future of the Society. The *post-mortem* specimens afforded scope for original work and hearty discussion, which cannot fail to benefit all who engage themselves with them. The investigation of some cases of Sarcoptic Mange, with demonstrations of its transmissibility from horses to man, and the conclusions arrived at from enquiry of disease caused by Strongylus Tetracanthus, especially some phases of development of the parasite, must always rank high among the benefits which accrue from such gatherings. The essays brought forward have, without exception, given evidence of willingness and ability to deal with important ethical and scientific matters. The discussions have been well sustained and the points raised well defended. The utmost unanimity and kindly feeling have been evinced throughout, and one ventures to think that the object of those who wished and worked for the establishment of the Society has been attained; and, gentlemen, it remains for you who are now its members to sustain and to enlarge its sphere of action and influence as opportunity occurs. Those who have left us to commence their struggles in other paths of duty will be missed, but they have left us a cheering legacy in the past success, and the consolation and encouragement of the reflection that those whose judgment bid them to strike out this line which your discretion induces you to follow in, have by the use of the selfsame reasoning power in directing them to sources of information attained that possession which it is the aim and hope of every one of you to do.

The list of awards was then read, and the President distributed the prizes and certificates.

Certificates of Fellowship to Messrs. J. G. Parr, of Leicester, "Cruelty to Animals"; Layton J. Blenkinsop, of Hilldrop Crescent, N.W., "Influenza"; Martin Robinson, of Budwell Barns, "Tetanus"; G. T. Pickering, of York, "Nervous Force, Instinctive and Volitional"; E. Hazelton, of Southampton, "Veterinary Sanitation"; E. Whitley Baker, of Portsmouth, "Colic"; W. Harvey Bloye, of Plymouth, "Communicability of Disease from Animals to Man"; C. W. Page, of Banbury, "Castration"; J. J. Twiss, "Parturient Apoplexy."

Certificates of Membership to the above, and Messrs. James Daly, of Dublin; T. Pottinger, of London; John Morton, of Worcester; Charles Hartley, of London; John Sutcliffe Hurndall, M.R.C.V.S., of Liverpool; R. Bull; Henry Sumner, M.R.C.V.S., of Liverpool; Robert Hill, of Leek, Staffordshire.

Thanks of meeting to the President, Messrs. Blenkinsop, Morton, Bloye, Robinson, Page, and the Secretary for *post-mortem* specimens.

List of Prize Awards.

The best essay read and defended at general meetings, given by Professor Robertson:—*Silver Medal*—Mr. W. Harvey Bloye, for essay, "Communicability of Disease from Animals to Man." *Bronze Medal*—Mr. J. G. Parr, for essay on "Cruelty to Animals."

The best preparation anatomical of fore limb of any of the domesticated animals.—No competition.

The best essay on the natural order "Umbelliferæ" (A. Class):—*Silver Medal*—Mr. W. R. Walker.

The best essay on Veterinary Sanitation.—No award.

The highest number of marks at written and *vivâ-voce* examination on all subjects included in the whole curriculum of education at Royal Veterinary College:—*Silver Medal*—Mr. E. Whitley Baker.

On the motion of Mr. HARVEY, seconded by Mr. SNOWBALL, the Report was adopted.

Votes of thanks to the President and Secretary brought the proceedings to a close.

THE ROYAL (DICK'S) VETERINARY COLLEGE.

Unveiling of Professor Dick's Statue.

ON October 24th, the Lord Provost of Edinburgh performed the ceremony of unveiling a statue of the late Professor Dick in the quadrangle of the Dick Royal Veterinary College, Clyde Street. There was a very large attendance, among those present being—the Marquis of Lothian, Sir James Gibson-Craig, Bart.; Principal Sir Alexander Grant, Bart.; Major-General Anderson, C.B.; Colonel Gillon of Wallhouse, Mr. Duncan M'Laren, Mr. Mylne, Niddrie Mains; Mr. F. N. Menzies, Secretary to the Highland Society; Mr. Melvin, Bonnington; Dr. M'Kendrick, Glasgow; Professor Turner, Edinburgh; Dr. Littlejohn, Professor Hallen, Dr. Fleming, Principal Veterinary Surgeon to the Army; Principal Williams, Mr. Finlay Dun, etc.

Mr. HARRIS, depute Town Clerk, intimated apologies for absence from the Duke of Montrose, Sir Walter Elliot, Mr. P. M'Lagan, M.P.; Major-General Fitzwygram, Professor Maclagan, Professor Balfour, Major Bailie Hamilton, the Hon. E. D. Home, Sir Wyndham Anstruther, and a number of others.

The LORD PROVOST then said it was ninety years since their friend Professor Dick, to whom they had met to do honour, was born in the Whitehorse Close of the Canongate. His parents did what every Scottish parent worthy of the name had done for the last three hundred years—gave their son a good education. After receiving the ordinary school education, he went to the University, where he attended lectures on anatomy and chemistry. At that time there was no veterinary college in Scotland, so having, very naturally—his father being a farrier and smith—conceived a regard for horses and dogs, he went, about 1817, in pursuit of further knowledge of those interesting animals to London, where there was a veterinary college, and continued there for a year or two, where he got his diploma. In 1820 Professor Dick began his lectures in Edinburgh, and, through the kindness of Professor Chiene, he (the Lord Provost) was able to show them how that Veterinary College began. His Lordship then read the first handbill issued announcing Professor Dick's lectures, which were commenced in the Calton Convening Rooms, and went on to say that from 1823 they might perhaps date the foundation of the College, because in that year Professor Dick got the patronage of the Highland and Agricultural Society of Scotland. In 1837 he received Royal recognition, through the late Lord Albemarle, then Master of the Horse. From that time onward, for the next thirty years, Professor Dick's course was a uniform success, his knowledge, his practice, and his usefulness increasing year by year. (Hear, hear.) During that time Professor Dick was able, through his industry and talent, to spend £10,000 of his own money in founding this College. (Hear, hear.) He undertook the responsibility of procuring lecturers on all the kindred subjects necessary for obtaining a proper knowledge of the art, and he left behind him his whole fortune—only subject to the life-rent of his venerable sister, who had but parted with life within a very short time—for the benefit of this institution. (Hear, hear.) Professor Dick was a strong man, an industrious man, a man who knew the value of work, and a man of whom they had had many types, his Lordship was glad to say, in Scotland—one of those men who had done the world good service. (Applause.) Since 1866, when the Professor died, the College had been carried on with somewhat varying success. Principal Walley entered

upon his duties in 1874 with thirty-six students, but he (the Lord Provost) was proud to say, both on account of the Principal and on account of the College, that the thirty-six was now 136. (Hear, hear.) When Professor Dick was about sixty years of age Mr. Hall Maxwell, then Secretary of the Highland Society, pointed out to the Government that he, single-handed, had organized the whole staff of lecturers on his own responsibility, and established classes for anatomy, physiology, materia medica, and chemistry, and that he had carried on the institution in such a successful manner that the Highland Society were fully sensible of the benefit he had done to the city, and considered that no other institution of a similar character was then required. During Professor Dick's lifetime, and since his death, the College had educated upwards of 1,000 veterinary surgeons. It numbered among its graduates those occupying the highest and most responsible positions in the profession, both at home and abroad, including the present and the late Principal Veterinary Surgeon to the Army, the present President of the Royal College of Veterinary Surgeons and his two predecessors in office, as also the Principals of the London, Glasgow, New Edinburgh, Montreal, and Ontario Veterinary Colleges. His Lordship trusted the College would go on increasing in renown and usefulness for many generations, and concluded by asking the sculptor to unveil the statue, which Mr. Rhind did amid loud applause.

The Marquis of LOTHIAN said it gave him the greatest pleasure to be present at the unveiling of the statue of so distinguished a man as Professor Dick. He came there, as they all knew, not only on his own behalf, but as the representative of the Highland Society, which had always taken a great interest in veterinary science. (Applause.) He thought it was very fortunate that they had had the Lord Provost to perform the ceremony of the day. It was one of his predecessors—Sir William Arbuthnot—who in 1816 first suggested the foundation of a chair including that of veterinary science in connection with the University of Edinburgh, and it was very appropriate that his representative in the same office should unveil the statue of the first eminent professor of that science in this city. (Applause.) The Town Council of that time did not agree to the suggestion of the then Lord Provost, but the Highland Society, especially since 1823, had done all in its power to encourage it, and he wished to express their great pleasure in seeing so good a statue of a man so eminent in his profession, and their gratitude to his memory for all that he had done. It must be a great encouragement to all those who were attending the College to think that those who preceded them had always led the van in the veterinary profession, and he thought that the example now before them in seeing the public estimation in which Professor Dick was held should induce them to go on increasing their knowledge of this most interesting science. He thanked the Lord Provost for having invited them there, and for his expression of appreciation of Professor Dick. He had just come from the other College, which had been opened to-day, and he had heard Principal Williams express his great appreciation for the talents and memory of Professor Dick as the founder of veterinary science in Scotland. A greater compliment could not be paid to a man than to be able to say that those who had been under him had taken the very highest position in the profession to which he gave so much attention. (Applause.)

Dr. FLEMING, President of the Royal College of Veterinary Surgeons, and Principal Veterinary Surgeon to the Army, said he did not come there to speak, but to worship; but, nevertheless, as a student of the College twenty-eight or thirty years ago, and in the name of many of the students of that time, who were now in the army, and who wished to be represented at the unveiling of the statue of their revered teacher, he was glad to have the opportunity of saying how high Professor Dick's memory was held among them. His students were in every part of the world, and they always admired

Professor Dick for his manly and unflinching courage, his great professional abilities, and his rectitude of character.

Mr. MYLNE, Niddrie Mains, expressed on behalf of the landed interests and stock-owners the unbounded confidence they had in Professor Dick for his straightforward honesty and independence of character.

Professor HALLEN, who was one of Professor Dick's students, and succeeded him as Principal of the College, also said a few words with regard to him.

Principal WALLEY took notice of the fact that it appeared from what the Lord Provost said that he was the only representative of an English college who was at the head of any veterinary institution in the country, and said he supposed he must look upon himself as a thorn amongst roses. This he could claim, however, that he was of the same *alma mater* as Professor Dick, for he was a student of the same college in London. And he would claim that from the moment that he put his foot inside the College, and filled the position which Professor Dick once occupied, he made up his mind that everything he could do should be done to further its interests. (Applause.)

Bailie CRANSTON, as representing the trustees of the College, thanked the committee and the subscribers for the statue, and said they felt perfectly satisfied that the institution would go on prospering. A considerable sum of money had been left to them to build a new college, to give the professors better salaries, and to enable them to cheapen the students' fees.

Professor TURNER, in name of Miss Dick's trustees, said they wished Miss Dick had lived to be present to see how green her brother's memory was in the hearts of his many students. The noble Marquis had referred to the alliance which at one time it was contemplated might have taken place between the University and the veterinary profession, and said the late Miss Dick in her settlement obviously felt something of that kind might be considered, because she had left her means partly for the good of the veterinary profession, and partly for the good of the University, and it might in time bring an association closer than at present existed between the profession of veterinary medicine and the University of Edinburgh.

Principal WILLIAMS was asked to say a few words, and he was received with great applause. He said he stood on these steps once more, where he never thought he would have done, but he did so out of respect to the memory of Professor Dick.

Mr. DUNCAN M'LAREN referred to his association with Professor Dick in the Town Council some thirty years ago, and moved a vote of thanks to Mr. Rhind, the sculptor, for the manner in which he had executed the statue. He had made a likeness which everyone who knew Professor Dick would at once recognise.

Mr. FINLAY DUN proposed a vote of thanks to the committee, and alluded briefly to the great work of Professor Dick.

Mr. MELVIN, Bonnington, replied. He said Professor Dick was the first in Scotland to introduce humane treatment for all living creatures, and it was from his exertions and education that they now saw the live stock of the country treated in a rational manner.

Sir ALEXANDER GRANT proposed a vote of thanks to the Lord Provost.

His LORDSHIP, in acknowledging the compliment, said that nothing in the day's proceedings had pleased him so much as the appearance of Professor Williams. (Hear, hear.) That the two colleges should be carried on with a generous rivalry and proper emulation with each other was, he thought, a most desirable thing, both for the colleges themselves and the cause of veterinary surgery. He believed that both would thrive all the better because there were two. (Hear, hear, and applause.)

The proceedings then terminated.

The statue consists of a figure of Professor Dick sitting in the professorial chair. His left arm is hanging over the back of the chair, the right arm being extended forward from the body, and holding in the hand the foot bones of a horse as illustrative of some point on which the Professor is supposed to be earnestly speaking. Despite the fact that the sculptor had only one or two photographs to work from, and those not very well suited

for his purpose, a most vivid likeness has been produced, the bold and firm modelling of the expressive features and large massive head at once conveying the independence and determination that were so prominent in the character of the man.

Presentation to Principal Walley.

A meeting was afterwards held in the lecture-hall, at which Principal Walley was presented by Mr. Gelsthorpe, in name of past and present students, with a silver salver and tea-service and an illuminated address, as a token of the high esteem in which he is held by them, and in acknowledgment of the very great interest and enduring efforts he has manifested in their behalf.

The LORD PROVOST, who presided, called upon Mr. Gelsthorpe to make the presentation.

Mr. GELSTHORPE said:—On behalf of the students of this college, I take this opportunity to present Professor Walley with a testimonial and silver service, in acknowledgment of the kindnesses which he has always shown to his students, and of his best endeavours to make us all good

and useful members of our profession. It is the sincere wish of every student that the Principal and his good lady may live many years to enjoy them.

Principal WALLEY, who was heartily cheered, in reply, said:—Gentlemen, there are times in the life of every man, I suppose, in which he feels—however much he may deprecate his own powers of doing good to, and gaining the goodwill of, those with whom he is associated, and for whom his best efforts are put forth—that he has not been forgotten, and that his labour has not gone unrewarded. Such a time is the present to me; not that such tangible evidence as this, which is forthcoming to-day, was required to convince me of this, for I feel in my heart that you, who have joined together to present this handsome testimonial to me, appreciate my bearing towards you in the past, as well as the endeavour I have made to prepare you for honestly performing in the future the duties of the profession which you have chosen for your life's work. I sincerely trust that by no act of mine shall I ever give you cause to alter the good opinion you now entertain of me. I think it must be patent to all of you that in teaching I find my greatest pleasure; and so long as my efforts in this direction are appreciated, so long shall I strive to make my teaching more profitable and useful. I do not expect that I shall succeed in gaining the esteem of every one of you, but I shall do my best in this direction, as in my eyes you every one stand towards me within the walls of this institution in the same position as each other. The terms in which the words of your testimonial are couched, make me acquainted with the fact that not only the students of the present, but those of the past also, have been engaged in the work of which this act of yours to-day is the consummation, and I need not tell you how much pleasure this fact affords me. When students pass from beneath this roof, they are still, and always will be, students to me; and so long as they make themselves worthy, it will be a privilege and a pleasure to assist them in their career in life. I can scarcely allow the present opportunity to pass without directing your attention to the good work performed by him who founded this institution, and in the ceremony of unveiling a statue to whose memory you have assisted to-day. His was no idle life, and if you wish to make yourselves respected by your fellow-men, to make yourselves useful members of society, and to gain the reward of a good conscience, you have only to follow his example. This ceremony of to-day forms a link between him and us, and I trust the statue you see from these windows will be a stimulus to you to work earnestly and honestly, so that you may fit yourselves for the task of easing the pains and sufferings of a creation which has no power to ease itself. The work of a veterinary surgeon is a noble work, unappreciated though it often is, and on the whole, and for the reasons I have just stated, it does not stand second to that of those who are engaged in the practice of the sister profession. In conclusion, gentlemen, I can only ask you to believe me when I say that from my heart I thank you for these valuable tokens of your goodwill towards me, and that so long as life shall last they will be to me the most cherished possessions. Professor Walley also said the gift was doubly valued by him, for the reason that the students had, within a period of six months, presented to Professor McFadyean a similar testimonial and a diamond ring. (The Principal was warmly cheered during the delivery of his speech.)

INTRODUCTORY LECTURE DELIVERED BY PRINCIPAL WALLEY, ROYAL VETERINARY COLLEGE, EDINBURGH, ON OCTOBER 29TH, 1883.

GENTLEMEN,—In view of the interesting ceremony in which you took part on Wednesday last, it might at first sight seem unnecessary that I should

introduce the winter course of lectures by a formal address; and I must confess that it was only a few days ago that I determined upon taking such a course, and I did so for two reasons; firstly, because I felt that without an introductory address from either myself or one of my colleagues I should be constantly thinking that the machinery of the session was in some way out of gear, and I believe the same impression would have been left on your minds also; secondly, because an address of this kind affords an opportunity for reviewing, briefly though it may be, all the good and important work which may have been done during the sessional year, and also enables one to give to the general public information which may be both interesting and beneficial.

The subjects, then, which it is my intention briefly to discuss to-day are three; viz., the *progress of contagious disease* within these realms during the past year, the *different and ever-varying phases of the germ theory*, and *sanitation*.

Most of you are aware that a panzoötic wave of disease has swept over this country within the past twelve months or two years. Epidemics, fortunately not of a destructive character, and epizoötics, have spread far and wide. With the former we have nothing to do further than referring to the fact that influences have been at work which have engendered, or perhaps I should say have favoured, the development of zymotic diseases in man and animals alike. This experience is not new, for it is a well-known and established fact that when epizoötics rage epidemics are equally rife; and, indeed, there is nothing remarkable in this, seeing that in both instances the same influences work to the same end.

In reference to animals, then, while Pleuro-pneumonia has declined, Foot-and-mouth Disease has raged to an alarming and ever-increasing extent, and with it Swine Fever seems to have taken a new lease of activity. Rabies in the dog fortunately has been comparatively quiescent; and, on the whole, the same remark will apply to Glanders in the horse; but the equine race has experienced the baleful effects of a wide-spread epizoöty of Effusive Fever—"Pink-eye."

Looking at the fact that Epizoötic Eczema is still in vigorous life, it naturally demands the greatest amount of consideration.

Those of you who were here last winter will remember the sudden outbreak of the disease in this city, but not all of you, perhaps, are acquainted with its source. The history of the outbreak is instructive, as showing that while we are on the look-out for the enemy from one quarter he may appear suddenly from another—may, in fact, outflank us. Jealously had we watched the English border counties, fearful that from thence the disease might be introduced into our midst, but from Ireland (up to this year free from disease) we did not anticipate that the malady would steal in upon us. Thus it happened that, according to the generally-entertained opinion, it was first imported into Ireland from England, and subsequently exported thence to Scotland, with the result that the stock-owners in many parts of the country experienced a taste of its baleful effects. That the outbreak did not get a firmer footing, and that it did not extend its area, was due solely to the vigorous action taken by local authorities, both of burghs and counties, with the view not only of circumscribing, but also of effectually suppressing it; and in this they have been successful, and while our neighbours across the borders and our friends across the Irish Channel have been struggling hopelessly against the ever-advancing enemy, we have succeeded in not only circumscribing the affection within very limited areas, but have exterminated it entirely.

It is to me a pleasant reflection, gentlemen, that our profession has had a hand in the good work, and that more than ever before, perhaps, our knowledge of the nature and characters of such maladies has enabled us to give

XUM

valuable advice, and that this advice has been readily and, I think, beneficially acted upon.

That disease of the class to which I am here alluding can be held in check and effectually stamped out has been amply demonstrated in the case of the recent outbreak of Foot-and-mouth Disease. Let us for a moment consider the case of Edinburgh. In April, 1882, an outbreak of the disease occurred —whence it came is still to me a mystery—in the byre of one of our cow-feeders. The owner of the animals knew his duty and performed it; he reported the outbreak, and by the monetary assistance of the cattle-salesmen of the city the local authority was enabled speedily to rid the city of its hated presence.

Following this we had a period of repose and apparent immunity, when suddenly it was broken in upon by a second outbreak, introduced through the medium of a lot of cattle from the north of Ireland, which had become contaminated in transit through the city of Glasgow. This outbreak extended far and wide, but fortunately it too was got rid of in a comparatively short space of time, though in some counties it threatened to override all opposing influences. A lull, with one or two slight breaks (as in the case of some Canadian cattle, which had also become contaminated in transit through Glasgow) again occurred, when suddenly the unpleasant fact that the enemy was still in existence was brought before us in the shape of another lot of diseased Irish bullocks; and in reference to this lot grave suspicions, to say the least of it, were entertained that the malady had been contracted in the western city. This visitation was quickly suppressed, and we had the satisfaction of seeing the disease circumscribed to the lot in which it made its appearance.

I have sketched this brief history of our experience of the disease in order to draw a parallel between the working of the Contagious Diseases (Animals) Act in Scotland, in England, and in Ireland.

It will probably be said that there must be some other influences at work to enable us to combat this and allied affections than the mere putting in motion of the machinery of the Act to which I have referred. It has often occurred to me, and I have publicly stated the opinion before, that there must be something in the Scottish climate inimical to the development and propagation of this and allied diseases; but be this as it may, and giving such influence, if it exists, all due weight, one thing is certain, that we have succeeded in doing that which our neighbours have failed to do, and that we have had no other weapons (no extraordinary measures) placed in our hands, wherewith to combat it, than those with which they too have been provided.

That we have had difficulties to contend with cannot be denied, and it is pleasant, after the battle is over, to reflect that those difficulties have been met and overcome. But while this is so, it will require great care on our part to prevent a reintroduction of the disease; and I must confess that I do not anticipate we have seen the last of it, though while making this confession I have faith in the sufficiency of the measures it is in our power to put into force, and believe that as in the past, so in the future, we shall be able, if the disease is unfortunately reintroduced, to cope with it.

Successful as has been the Act in Scotland in arresting the progress of Foot-and-mouth Disease, its application in its present form has led to much inconvenience; it has harassed trade, and it has disarranged business to a very great extent; and this has been due largely to the interpretation which has been placed upon the provisions of the Act, and the orders issued under it by different local authorities. Contemplating the action of these bodies in the past, ay, even in the present, one would think their interests were mutually antagonistic, as their actions in some instances have not only been anomalous, but they have been retaliatory, and the prosecutions instituted by some have even the appearance of harshness, if not of vindictiveness.

XUM

Legislation in this country is not intended to be oppressive; it is paternal; and while the law properly provides a penalty for the wilful breaking of its edicts, it does not contemplate the application of a vindictive persecution against those who unwittingly fail to keep its behests. In the case of some local authorities heavy fines have been inflicted for the most trivial offences, committed often in ignorance, and ignorance, too, of orders the purport of which it would take a clever lawyer to understand; while in other instances, where animals have been exposed (sometimes wilfully) in open market while suffering from disease, the punishment meted out has been ridiculously out of proportion to the gravity of the offence.

All this points to the necessity which exists (and imperatively so) for the investment of authority in a central power, a power having the assistance of the best scientific advice and of the police force throughout the country, and orders issuing from which shall be of universal applicability. Certainly something of this kind has been of late initiated, but it must be borne in mind that the committee of the different local authorities, whose meetings have been recently held in Glasgow, can only advise; it has no legislative function; nevertheless, it has done good by bringing local authorities more into contact with each other and showing them that their interests are mutual and not antagonistic. I hope it will be the means of getting rid, at least, of retaliatory and oppressive action.

Hitherto I have directed your attention to local bodies: one word about the central power. The Privy Council did the best bit of work it ever did by issuing the "Infected Circles Order," as it places in the hands of the minor bodies a powerful weapon for the control of disease, without unduly interfering with the transaction of business in the surrounding districts. The original orders assumed that the disease was a respecter of an arbitrary border-line: the present order has abolished the assumption, and has enabled one local authority to act independently of its neighbour.

The legislation should, however, in my opinion, go further than this; it should give local authorities the power of slaughter in particular and isolated outbreaks, and it should meet the loss on such slaughter by imperial taxation, seeing that the benefit to be derived from such a measure would be universal, not local only; and even if legislation were not carried so far as this, the providing of a suitable sanatorium by all local authorities in whose jurisdiction public markets are held should be insisted on. I am happy to say that there is every probability of the local authorities of Edinburgh taking the initiative in this matter; but whether they see fit ultimately to follow the advice tendered them or not, I have one public acknowledgment to make, and that is that the magistrates of this city have always shown themselves willing and anxious to consider with favour any proposition calculated to arrest and prevent disease which I have had the honour, in my capacity of veterinary adviser, to lay before them.

I am quite aware that there are many people who advocate the removal of all restrictions, allowing the disease to spread hither and thither without let or hindrance. Such people are either very ignorant of the most elementary sanitary laws or they are in some way or other interested parties. The losses already accruing from the effects of the disease in the limited outbreak we have suffered in Scotland are very great, and the misery and pain inflicted upon its victims by the disease are incalculable. It is all very well to say, "Oh! the disease does no harm; it is soon over, and animals thrive better after it." Granted that certain classes of stock make rapid and good recovery without much deterioration in value, what about the damage done to lambing ewes and calving cows? Ask some of the victimized dairymen of Edinburgh what they think as to the alleged beneficent effects of the disease? I am in a position to say that, in several instances at least, the loss will not be

XUM

covered by one hundred pounds, leaving out the question of the agony suffered by the animals themselves. Suppressive measures, and these of the most radical kind, are the only ones which recommend themselves to the minds of sensible people in dealing with this and allied affections. As a proof of the statement, glance across the Atlantic, and see what has been so recently done in the case of Cholera; carry your minds back a few years to the outbreak of Rabies in this city; look across the Netherlands, and see the result of compulsory slaughter in the suppression of Pleuro-pneumonia—not one fresh case has been detected for months in a country previously almost decimated by the disease; or, again, take Glanders in the horse, than which there is no greater scourge of the equine race when left uncontrolled, and yet there are few diseases so easily stamped out when vigorous sanitary measures are put in force. No, gentlemen, I am not one of those who believe in folding their hands and standing helplessly by while disease stalks abroad claiming day by day its holocaust of victims.

The stock-owners' millennium may not come in our day, but we can use all the energies we possess to bring it about as speedily as possible, and when disease does raise its destructive head we can at least do all that lies in our power to stamp it beneath our heels.

In May last I had the privilege of introducing this matter, as one of the major subjects for discussion, to the notice of a very large gathering of my professional brethren at the first meeting of the British National Veterinary Congress, held in London; and I then drew attention to the great necessity which existed of not only adopting rigorous repressive measures in dealing with those diseases at present recognised as contagious by the Contagious Diseases (Animals) Act, but, at the same time, of including other diseases, more especially Tuberculosis and Anthrax, in the list of such maladies, and I am happy to say that, with one slight exception, my opinions were unanimously accepted by the meeting.

In reference to Tuberculosis, every day that passes strengthens the conviction in my mind that it should be grappled with by the legislature. I am quite aware that suppressive measures would inflict great loss in the case of some of our best herds, and unfortunately they are most largely the victims of the disease; nevertheless, their application is warranted not only by the suffering it would save the brute creation, but by removing a source of contamination to our own species. Curiously enough, I am enabled to offer for your inspection in this room the intrinsic generative organs of a boar, forwarded to me by Mr. Mitchell, of Stranraer, which illustrate a not usually suspected method of contamination between male and female animals Prof. W. (described the condition of the parts and the source by which contamination would ensue), the subjects of Tuberculosis.

In the event of legislative measures being applied to the suppression of tuberculous disease, the incidence of taxation, for the purpose of giving compensation, should be imperial, not local.

The second division of my address to you to-day, as I have already indicated, deals with a few phases of the germ theory of disease. What a wonderful volume could be written on the characters of the ubiquitous germ! Probably the literature of no subject connected with disease has attained to such dimensions in such a short space of time as has that which refers to the development of the physically-insignificant microbe; and even now we are far from arriving at satisfactory and settled conclusions on the subject, neither have we as yet exhausted the list of diseases which owe their origin to microscopic bodies of some sort or other. While the doctrine of abiogenesis may be considered as annihilated, there is still room for differences in opinion as to the probability or possibility of comparatively harmless organisms contracting in some way or other virulent and destructive

powers. On the whole, perhaps, this modified doctrine commends itself more to the minds of scientific men than does the more radical one of spontaneous generation. Allowing that any particular disease is due to a recognised micro-organism, we cannot for a moment suppose that such an organism can spring out of nothing, or out of inert matter; but, on the other hand, in the case of diseases due to a non-particulate poison, we may, without any sacrifice of our position as scientists, believe that they may be originated anew.

I suspect Darwin, when he enunciated his theory of evolution of the higher organisms, little thought it would be one day applied to the infinitely lower; yet such is the case, and perhaps it is the best way of reconciling the believer in spontaneous generation to the loss of his favourite bantling.

In the month of May last year I read a paper on "Specificity in Disease" at a meeting of the North of England Veterinary Medical Association. In that paper I made the following remarks:—

"The question may yet be asked, Is it not possible for that which, under ordinary and natural circumstances, is harmless or inert, to acquire specific characters when placed under extraordinary and abnormal conditions?

"Though a living unit may not actually spring out of dead matter, may not pre-existing units possessed of definite qualities become so altered in their nature as, in their results at least, to present a striking contrast to their progenitors?

"Organisms, I think, it is now generally admitted, are pretty well harmless, providing the one important factor, a suitable soil, is not forthcoming. Just as the seed will not grow if the soil in which it is sown possesses not the necessary elements for its nutrition, or as the body cannot live if the food presented to it is deficient in the requisite constituents for its growth and nourishment, so will organisms be rendered inert, or perish, if the ground in which they are sown is not prepared for them."

Now turn to the *Lancet* for the 6th inst., and you will there find the following:—

"In the Biological Section of the British Association for the Advancement of Science, Dr. W. B. Carpenter addressed an audience on the 'Germ Theory and Disease,' and in so doing he helped forward the views which are now held by an increasing body of biologists and physicians, to the effect that the contagia of the several infectious diseases are due to the progressive development, in hitherto innocent germs, of the conditions by which they acquire their infective activity. Dr. Carpenter treated his subject from the natural history point of view. He expressed the opinion that even the innocent hay bacillus, which, when sown in such media as broth, only led to putrescence, and had no power of propagating its own kind within the human body, might, under favouring circumstances, undergo such a modification as to become the germ of a severe disease; and, pointing out how the lower forms of life adapt themselves to changed conditions of existence, he argued that the development of a mild or a potent infection was, in the main, a matter of cultivation. This view is very different from that which is held by a certain class, who maintain the *de-novo* origin of infection. It is not a question of the development of a living organism out of matter independently of antecedent life, but the production, by *a process of evolution*, of qualities for harm in an already existing organism; and it is most probable that in such an explanation will be found the secret of the origin of the various contagia which so seriously affect both animal and plant life."

After directing attention to the experiments of Dr. Burdon Sanderson, in which he showed that a comparatively harmless pus might contract, by cultivation in the peritoneal cavity, the most virulent properties, the writer of

XUM

the article goes on to say, "In much the same way Dr. Carpenter now asserts that the potency of the several specific contagia which affect man depends upon the nature of the breeding ground."

Some time ago both Vulpian and Steenberg showed by experiment that healthy human saliva introduced into the subcutaneous connective tissue of rabbits produced death in forty-eight hours, and that the blood of the infected animals teemed with micro-organisms, and produced a similar condition when reinoculated in other rabbits.

I wish now to direct your attention to another and unlooked-for phase in the germ theory, and again I have to refer you to the *Lancet* of the 6th inst., at pp. 600, 601 of which you will find that (according to Sattler, Cornil, and Berlioz) an active drug, the Indian liquorice, owes its property of inducing a local inflammation when applied to the conjunctival membrane, and a general toxic effect when introduced into the system, entirely to the action of a parasite of bacterial nature.

I need not point out what an important influence this discovery must necessarily exert upon the germ theory of disease in animals.

Much as the germ theory may assist us in explaining the origin and nature of many maladies, it is one that is very liable to be stretched and perverted, and the cultivation of germs is undertaken by men under conditions more calculated to assist in the growth of potatoes than of such subtle and ubiquitous creatures as micro-organisms. Moreover, diseases are attributed to their influence which owe their origin to more simple causes.

There is *only one test for such organisms,* and that is *inoculation* and *reinoculation,* and in several cases where disease has been attributed to their action this test has failed.

I cannot leave this part of my address without referring to the satisfactory manner in which two very important subjects have been cleared up of late, viz., Actinomykosis, by the writings of Dr. Fleming, and the life history of the liver fluke by Professor Thomas, late of Cambridge.

The third section of this day's address deals with sanitation.

There are probably some people who think that veterinary surgeons have nothing to do with sanitary matters as applied to the human race. Certainly in some respects this idea is true; but surely, when the consumption of animal food is in question, those who are intimately acquainted with the habits of the brute creation, who know, or ought to know, the intimate structures of the animal frame, who have made themselves acquainted with the changes these structures undergo when acted upon by disease, and who have studied the effects of these diseased structures upon the human body, are entitled to be heard in connection with such matters, and their opinions relative thereto respected.

The subject of sanitation, in reference to the flesh and milk of animals used for human food, formed a part of the paper to which I have already referred as having been read by me at the first meeting of the British National Veterinary Congress. In that paper I referred to the fact that hundreds of animals, more especially cattle and sheep, were every year exposed in our public marts for sale, and ultimately slaughtered for the purpose of human food, the flesh of which, if not absolutely deleterious, was at least innutritious; and I further pointed out that, practically, there was no check placed on the sale of such animals.

Such a condition of matters is a disgrace to our national common sense and prudence. Why should it be even a possibility for men who care nothing for the health and well-being of their fellows, so long as they can fill their purses from the proceeds of a nefarious traffic, to carry on such an abominable and disgusting trade as that of a "carrion butcher"?

Such a trade could not exist a single day if rigorous measures were put in force, and if those measures were made universally applicable. Why should Edinburgh, for instance, be an outlet for the disposal of the flesh of all the diseased animals which are killed in private, out-of-the-way slaughter-houses, or in some sequestered spot in the hollow of some hill in the neighbouring county? Why does not the legislature give the inspector of markets power to seize every animal found exposed for sale whose condition shows that it is the subject of some deadly disease, and, in all probability, one capable of transmission to the human subject by ingestion?

We cannot, perhaps, blame salesmen for selling such animals as those to which I have referred. They are sent to them for sale, they get a commission for selling them, and it is not natural that they should be expected to pitch even a bawbee into the ditch. There should be no option in this matter; every such animal should be seized and taken to a public abattoir for slaughter and inspection; but so long as the law does not empower market officials to do this, and so long as "blockade-runners" can purchase such animals, take them outside the boundary, and there slaughter them, so long will the vicious system be perpetuated, and so long will the lower strata of the population be exposed to the deleterious influence of the flesh of consumptive and other animals. The race of carrion butchers should not find standing-room in a civilized country, and the manufacturers of potted meats, polonies, etc., should be subjected to a stricter surveillance. Granted that in the case of the more respectable men of this class any interference with their trade would be a hardship, the suppression of an illegitimate traffic, which reflects to some extent upon a legitimate one, would be to them a great gain.

I have been led to make these remarks mainly by an occurrence which took place in this city only a short time ago, viz., the prosecution of one of the class to which I have referred for exposing decomposing horse-flesh for sale.

Horse-flesh when healthy and fresh is, as I can personally avow, more palatable, and it is probably more nutritious, than that of the ox; and there is no animal so free from disease, if we except Glanders, liable to be propagated in the human species than the horse; but every man or woman who purchases flesh meat for consumption has a right to expect that he will get that which he has been accustomed to buy, whether ox beef or mutton, and not have palmed off upon him the flesh of an animal of a totally different species. The legislature, very properly, does not interfere with the sale of horse-flesh so long as the animal from which it has been obtained was healthy, or so long as the flesh itself is in a wholesome condition; but it assumes that such flesh is sold for what it really is, thus giving the intending purchaser an opportunity of buying it with his eyes open. As things are at present the traffic affords a ready and profitable outlet for the disposal of all kinds of animals, and we have no guarantee that some of them at least are not the subjects of that deadly and repulsive disease, Glanders.

In addition to the consideration of flesh meat, we have the question of milk supply. It is now an established fact that there is no fluid so capable of absorbing and supporting contagia as milk, and numerous outbreaks of zymotic disease have been traced to this source; but very frequently propagation of disease by this source is more fancied than real, hence we sometimes have medical men declaring that a particular outbreak of Diphtheria has been due to the existence of Diphtheritic Mammitis in one or more of the cows in the dairy from which the milk has been supplied. Now, it is a remarkable fact that I have never yet seen diphtheritic inflammation of the udder of the cow, nor do I know any veterinary surgeon who has; and assuming that such a type of inflammation existed in this organ, is it probable that secretion would go on? or if it did to a slight extent, would not the secretion

XUM

be so altered in its characters as to enable any ordinary person to detect the fact that there was something wrong? or would any dairyman, in the enjoyment of his senses, risk the loss of his business by mixing such milk with his regular supply? Again, it sometimes happens that medical men discover an outbreak of Aphtha amongst their patients, and their excited imagination leads them to the assumption that the milk has been obtained from animals the subjects of Foot-and-mouth Disease; but on an inquiry being instituted not only is it found that the disease does not exist in the particular byre of cows from which the milk has been obtained, but it has no existence for many miles around.

Having, then, gentlemen, briefly touched upon the three principal subjects of my address, it only remains for me to urge upon you the necessity of seizing upon every opportunity which offers itself to make yourselves masters of that most important of all subjects, to veterinary surgeons, sanitary science; and in order to enable you still more thoroughly to do this you must make yourselves acquainted with disease in all its aspects. Do not content yourselves with a superficial knowledge: do not think it is enough to be enabled to say to your examiners that such-and-such a disease is found in such-and-such an animal. That kind of knowledge is useless, either to you or to any other person, and reminds one of the kind of teaching sometimes found in dictionaries, to the effect that "Pyramus was the lover of Thisbe," not taking the trouble to tell us what other occupation than that of loving Thisbe, Pyramus had, or whence he came. Certainly the primary function of the veterinary surgeon is "to *heal*," but there is a secondary function of almost equal importance, viz., "to *prevent*" disease, and in proportion as the profession shows itself willing and capable of doing this, in like proportion will it be valued and cherished by the community and the state. It is, I think, more pleasant to reflect that the county or burgh in whose precincts you reside, and for whose well-being you are (as far as immunity from contagious animal diseases is concerned) responsible, than to be able to say, "Oh! such-and-such a disease has been very rife of late, and I have had marked success in my treatment of it." To me, at least, the reflection is a pleasant one, officially, that at the present moment no contagious disease exists in the city of Edinburgh.

You may not be always successful in your efforts to stamp out such diseases. Remember, you are neither ubiquitous nor infallible; and though in your own estimation you may be Argus-eyed, there will still be a probability of disease slipping into your preserves unseen and unsuspected. Neither are you to expect that every effort you may make for the good of the community will be always appreciated or rewarded; nevertheless, I would have you persevere in the good cause, and if no other reward comes to you there will always be that emanating from the consciousness that you have done your duty, and this reward no man can take from you.

THE NEW VETERINARY COLLEGE, EDINBURGH.

THE New Veterinary College, which has been erected in Leith Walk for Professor Williams, was formally opened on October 24th, under the most auspicious circumstances. It was arranged that Professor Williams should deliver an address at one o'clock in the class-room, and at that time the building was crowded with gentlemen from all parts of the country interested in veterinary science (besides a number of ladies), amongst whom were the following veterinary surgeons:—Messrs. A. Hume, Haddington; R. Paterson, Dumfries; A. Balfour, Balweay; A. Balfour, Markinch; G. Philp, St. Andrews, D. Crabb, Carnoustie; A. Spreull, Dundee; G. Young, Haddington; R. Mitchell, Glasgow; J. Borthwick, Kirkliston; J. Aitken, Dalkeith;

J. Aitken, Causewayside; J. Aitken, jun., Causewayside; P. Moir, Edinburgh; R. Rutherford, Edinburgh; H. Seton, Edinburgh; I. Vaughan, Doncaster; J. Young, East Calder; J. Johnston, Peebles; J. Clark, Cupar Angus; A. Robinson, Greenock; Arch. Robinson, Greenock; A. Boyd, Melrose; J. Grainger, Jedburgh; W. Dacre, Altrincham; H. Thompson, Aspatria; J. Bell, Carlisle; J. M. Stewart, Stirling; M. Hedley, Darlington; A. Bain, Liverpool; W. H. Bridge, Bolton; E. Faulkner, Manchester; T. Hopkin; E. Kitchen, Liverpool; A. Michaelis, Manchester; —. Bromley, Lancaster; —. Summers, Annan; J. Tait, Aberdeen; A. Robb, Glasgow; M. I. Roberts, Kendal; W. Hepburn, Coldstream; F. Whittaker, Bury; W. Woods, Wigan; Finlay Dun; W. Anderson, Hexham; G. Elphick, Newcastle; H. I. Cartwright, Wolverhampton; J. M. Axe, Doncaster; D. Aitken, Loughboro'; W. Snarry, York; D. Sowerby, Hull; P. Walker, Bradford; J. Thomson, Old Aberdeen; T. Connochie, Ayton; J. Cameron, Berwick; T. D. Connochie, Selkirk; W. D. Connochie, Selkirk; A. Stringer, Belfast; J. Hutton, Kelso; C. Cunningham, Slateford; D. O'Leary; C. Phillips, A.V.D.; T. Mitchell, Leith; Dr. Murray, Dr. Thatcher, Dr. Playfair, Dr. Caverhill, Dr. Littlejohn, Medical Officer of Health for City of Edinburgh; Professor Rutherford, Major Wilson, D. Salmond, Bingley. On the platform there were deputations from the Highland and Agricultural Society of Scotland and the Yorkshire Veterinary Society. The deputation from the Highland Society was headed by the Marquis of Lothian, and the other deputies included—The Earl of Mar and Kellie, Sir James Gibson-Craig, Bart.; Sir James Gardiner Baird, Bart.; Sir Hew Dalrymple, Bart.; Major Campbell, Colonel Hare, of Calderhall; Colonel Gillon, of Wallhouse; Mr. Balfour, of Balbirnie; Mr. Smith, Stevenson Mains; Mr. Wauchope, Jr., of Edmonstone; Mr. Mylne, Niddrie Mains; Mr. Hope, East Barns; Mr. F. N. Menzies, and the Rev. Dr. Grant. The deputation from the Yorkshire Veterinary Society consisted of Mr. Axe, Doncaster, President; Mr. Schofield, Pontefract, secretary, and others. The Marquis of Lothian occupied the chair, and briefly introduced Principal Williams, who was warmly received.

Principal WILLIAMS proceeded to deliver the following interesting address, which was listened to with evident appreciation :—My lords, ladies, and gentlemen,—Permit me to thank you most sincerely, and, so far as lies in my power, to express to you all my appreciation of the honour you pay me as well as this institution by your presence here to-day, a day which to me will be ever memorable and eventful, marking as it does the foundation on a more durable basis of a second Veterinary College in Edinburgh, a city which has been associated with the teaching of veterinary surgery almost since it was recognised in this country as a science worthy to be followed by educated men. The presence of so many associated not only with my own profession, but with medicine, agriculture, and other departments requiring a scientific knowledge, assures me that my venture recommends itself to their approbation and support. It would ill become me to refer at any length to the history of the foundation of a second Veterinary College in Edinburgh, where one founded by my own teacher and preceptor had existed so long, and over which I had the honour to preside for some years Suffice it to say, that in vindication of my reputation as a professional man, and in defence of my character as a citizen, I felt compelled ten years ago, to resign my position in Clyde Street, and apply to Her Majesty for the sign-manual to teach veterinary science in this city, and to establish the New Veterinary College. Notwithstanding some opposition, Her Majesty's sign-manual was obtained, and from the opening of the first session to the present time our success has more than exceeded our expectations, so much so that the premises in Gayfield became too small for our requirements, and it

became imperative that greater accommodation should be provided for the large increase in the number of students. The chief aim and object in the design of the present building has been to secure accommodation not only for our students, but to enable us to demonstrate clinically our treatment of disease, and to show the higher value we attach to physiological principles and sanitary measures than to mere medical remedies, and also to give facilities for the scientific investigation both of healthy and diseased structures and processes : in fact, we aspire not only to encourage a desire for research in our students, but also, as is the case in continental laboratories, to give facilities to those members of the profession who have already been engaged in its arduous toils and duties, and who may wish to improve their knowledge, and perhaps to unravel, with the assistance of scientific applications, some mysterious problem which may have repeatedly arisen in the course of their ordinary practice. To all of these we shall give a hearty welcome and every assistance. It is not my purpose to enter into minute details descriptive of the College, but there is one arrangement, unique in this country at least, to which I would wish to refer, namely, the provision made for the special treatment of chest diseases by means of warm air ; several of our loose boxes being furnished with hot-water pipes, by means of which the temperature can be raised to and kept at about 70 degs. Fahr. I consider this of very great importance, particularly in a climate like that of Edinburgh, where the cold winds of spring are the cause of such diseases. I am sure that my professional brethren will agree with me when I state that many valuable animals have been lost, and convalescence retarded in others, by being compelled to breathe cold air whilst suffering from diseases of the air-passages.

From the commencement of my career in Edinburgh I have had, as I have to-day, the impartial support of the Highland and Agricultural Society of Scotland, and the kind advice of its respected secretary, to whom, as well as to the society generally, I now tender my best thanks. To my profession generally I am under a deep sense of obligation and gratitude, for without the patronage and support of its members, both in this country and abroad, who have sent their sons and pupils here as students, I could not have founded nor continued this new institution. Most deeply do I feel a gratitude which I cannot express as I see so many well-known faces, and particularly when I have the honour of receiving a deputation of my professional brethren, who, after my long absence from Yorkshire, have not forgotten my humble efforts as the first secretary to the Yorkshire Veterinary Society.

The year which is now drawing to its close has been a very important one to our profession, owing to the outbreak and dissemination of that eminently contagious malady known as the " Foot-and-mouth Disease ; " and from this the question naturally arises, Is the Contagious Diseases (Animals) Act sufficient to deal with and suppress contagious diseases? In answer to this, I may state that I consider the Act to be very comprehensive, but that its efficiency is impaired by the manner in which it is carried out. The body of " decrees " or " orders " which contains the rules for its administration is too voluminous, often contradictory, differently applied in different localities ; so that one district may have regulations distinct and separate from those of another. Again, the authorities who carry out the Act are different in England to what they are in Scotland. In the English counties the local authority for the purposes of the Act are the Justices of the Peace in General or Quarter Sessions assembled, and in the boroughs the Mayor, Aldermen, and Councilmen ; whilst in the Scotch counties the local authorities are from five to fifteen Commissioners of Supply and an equal number of owners and occupiers of land, and in the burghs the Magistrates and Town

Council. But over and above these, both in England and Scotland, the Privy Council has a strong controlling power—regulating slaughter in some diseases (such as Rinderpest), but not in others ; ordering the movement of animals ; declaring infected areas ; and controlling the inspection of seaports. Seeing that unity of action is almost an impossibility in such arrangements, it was unanimously agreed at a meeting of the National Veterinary Association, held in London, in May last, when the subject was considered, "That in the opinion of the meeting it would be wise for the working of the Contagious Diseases (Animals) Act if the Privy Council were to take the whole responsibility on itself, and not to leave it to the local authorities." It was also almost unanimously conceded that the Act itself was very good, but that its usefulness was impeded by the manner in which it was carried out, and that very often there was a want of a true comprehensiveness of the diseases dealt with on the part of those who have the power of legislating. The history of the last few months bears out the correctness of the above resolutions ; and that the provisions of the Act have been neglected until the disease has taken such firm root as to render legislative measures almost imperative to prevent its diffusion and continuance. I apprehend, however, that the idea of one central authority acting for the United Kingdom will not be entertained, but there is one arrangement which requires immediate consideration, namely, that the country generally should be mapped out into infected and non-infected areas, instead of into burghs and counties, and that legislation should apply to districts whilst infected only. At present the method of declaring a whole county infected, and prohibiting the removal of cattle from it to another county, whilst perhaps only a small area is infected, is considered a very great hardship by those interested in stock. For example, suppose an outbreak were to occur, say, at Blair Athol, the whole of Perthshire would be scheduled by all other local authorities, and no animals could be moved from any part of that infected county into another. Now this would press very hard on those living about Callender or Doune who wanted to sell and remove any of their cattle or sheep : whereas, if infected areas were declared the prohibition would only extend a short distance from the infected place, and the hardship be felt by a comparative few, as there would be a free acess from the healthy portions to other counties. As a bright contrast to the almost universal apathy manifested by the English—Westmoreland and Cumberland excepted —and Irish local authorities, I have to point out the admirable method by which in Scotland the disease was grappled with and suppressed during a season which may indeed be stated to have been one of those peculiar periods which seem to favour the opinion that during some years there are certain conditions, aerial or terrestrial, in which the virulence of certain diseases is more pronounced than in others ; when such diseases have a greater tendency to spread over large areas ; when, in fact, the crops of germs or other matters to which they owe their origin are abundant and strong. Take this example : —Foot-and-mouth Disease was introduced into this city and county early in February last, by some Irish cattle which had been landed on the previous day in Glasgow, and transmitted to the Edinburgh Cattle Market, where they were found to have the well-known symptoms of the disease, and which, in the opinion of many competent judges, were of several days' standing—in fact, they must have had the disease before they left Ireland. Now this proved two things—First, that the inspection in Ireland had been inefficiently performed ; and secondly, that the Glasgow authorities had been equally inefficient. Indeed, on investigation, it was ascertained that inspection of Irish cattle was not deemed necessary in Glasgow at all, that being left to those on the other side of the Channel—a misplaced confidence not likely to be indulged in again. These cattle were found in the Edinburgh Cattle Market ; and here another blunder was committed, for which the country has had to

XUM

suffer, for instead of ordering the gates of the market to be closed at once, the burgh authorities allowed the cattle to leave the market, and in a very few days both the burgh and the county authorities had several centres of disease to contend with, but, unlike those of England and Ireland, they at once grappled with and in a short time entirely suppressed it. It cannot be denied that this very satisfactory termination of what threatened to be a universal scourge was due to the vigilance of the authorities, and more particularly to that of the chairman of the local authority for the county, to whom the country generally is very much indebted. It is also to the credit of the veterinary inspectors to say that they acted in a most impartial and straightforward manner. By them the centres of infection were discovered, declared infected, isolated, and kept under supervision until all danger of spreading was over. If this state of matters is compared with the modes of procedure over the border, where local authorities are often at variance one with another, the sad consequences of which are only too well-known, the superiority of the Scotch system will be abundantly manifest. To secure the efficient working of the provisions of the Act, I would take leave to point out that it is necessary that local authorities, if they are to continue, should be in unison, and that none but thoroughly qualified veterinary surgeons should be appointed as inspectors, and that they should be very differently remunerated from what they are at present. For example, a veterinary inspector has often to travel six, eight, or ten miles, in all sorts of weather to examine a score or two of cattle affected by a contagious disease, or several scores of sheep affected with Scabies, or pigs suffering from Swine Plague—report to the local authority and to the Privy Council—and for this visit, expense, time, trouble, and professional skill, he receives the princely sum of about seven shillings. Now this is not a remuneration for a veterinary surgeon to perform the important duty required of him. It is mistaken economy, and may—nay, undoubtedly does—result in errors and serious loss to the country. It should not be forgotten that the suppression of the spread of disease, and the stamping of it out, however advantageous to the country at large, means, and is, a diminution of income to the professional man, for the prevalence of disease is his harvest. Let the country, then, deal generously with the veterinary inspectors, and avoid appointing any but the best qualified. There are many so-called veterinary inspectors who are not members of the profession at all, and whose services can be had at a very small outlay; but this is a method of dealing with an important matter which ought not to be allowed to continue. The Foot-and-mouth Disease is an eminently contagious and infectious malady, and is diffused in a variety of subtle and mysterious ways—so much so, indeed, that some people even now contend that it originates spontaneously in this country. In some contagious diseases it is necessary that there be actual contact between diseased and healthy animals before the disease is communicated from the one to the other; but the virus of the disease in question is conveyed from place to place by attendants, utensils, manures, dogs, mice, rats, etc.; indeed, so subtle is its infectiousness that in a few days from its appearance in a district it will, unless the greatest precautions are taken, appear in apparently isolated centres, and where circumstances would indicate that the conveyance of the virus could not have occurred. But, gentlemen, we are not to be led astray by what appears to be inexplicable, nor are we warranted in concluding that the disease originates spontaneously in this country, as its history proves incontestibly that it is always an imported disease. We are not, however, to conclude that because Foot-and-mouth Disease does not originate spontaneously here, that it does not do so in some other country; and notwithstanding the very general opinion of scientific men that no contagious diseases originate except from contagion, I cannot overcome the old-

fashioned conviction that such may, even in our day, originate spontaneously —I mean that they may be induced by materials other than those transmitted from the systems of diseased animals—and upon this point we have lately had the views of some of the most learned members of the medical profession. It is said, for example, that Cholera, which is undoubtedly a contagious disease, may be bred in collections of decomposing matters, sewers, heaps of filth, and marshes, and that the last outbreak in Egypt had been proved by Surgeon-General Hunter to have originated from the Egyptian marshes, and not imported from India, as had been asserted. Again, it is very conclusively shown that diseases, such as tubercle, which originates in the form of a benign growth, gains autonomy, or an independent life, during the changes which occur within it, and thus become virulent and infective. It is very true that a *bacillus*, or rod-like organism, has been demonstrated in tubercle, and it has been asserted that this organism is the cause of the disease; but until it is proved that the *bacillus* is present in the very earliest stages of Tuberculosis, and that of itself—unmixed with the products of the diseased process—it is capable of inducing the disease in healthy animals, I cannot be convinced that tubercle does not originate spontaneously. At the same time I freely admit that its transmissibility from animal to animal and to man is sufficiently proved, and that Tuberculosis should be included in the Contagious Diseases (Animals) Act. I might, if time permitted, refer to other evidences, which prove that the ordinary matters contained in the atmosphere, as shown by the experiments of Koch, may, under certain conditions, be so developed as to give origin to communicable or infectious diseases; but perhaps you will think that I have dwelt sufficiently long upon this point at present. My reason for referring to the matter at all is for the purpose of combating the idea, which seems to become stronger and stronger, that infective diseases never originate except from organisms or other products evolved from the bodies of animals already diseased. If this opinion were to prevail, what benefits are we to derive from sanitation, purity of atmosphere, good drainage, and conditions which, in this country at least, have almost abolished that dire and fatal malady, Glanders—a disease which was rife in the memory of many of us? Glanders is now said never to originate spontaneously, and I believe that, under existing conditions, there is a deal of truth in the statement. If we compare the conditions of our stables, and the general treatment of horses with those of, say, twenty years ago, we can see some force in the conclusion; but if the surroundings of horses were now as they were in the past, I have no hesitation in stating that there would be numerous instances of Glanders of spontaneous origin. Having, then, almost abolished Glanders by improved sanitation, is it not reasonable to suppose that we may yet trace the conditions giving origin to *all* contagious diseases, and having found these out, be able to abolish them entirely? I believe that science will yet achieve that great and happy end. Whilst so many members of my profession are present, I hope I may be pardoned for referring, in the next place, to what more immediately concerns the profession than the public. Doubtless most of you are aware that during the last few years the profession has made very rapid and upward progress, and that it now stands in a much better position, both scientifically and socially, than it did a few years ago. This happy result has been due to the efforts of several earnest men, who first of all founded associations for the purpose of considering the requirements of the profession generally, and of bringing those requirements before the notice of the Council of the Royal College, where after a time they received due consideration, and were carried into effect. In 1876 a supplementary charter was obtained, which conferred certain privileges and improved the status of veterinary surgeons; it also enabled the Council to grant a diploma

of Fellowship and to elect honorary and foreign Associates, and that at the end of ten years none but Fellows shall be eligible as members of Council or members of the Board of Examiners. Next in order we had the supplemental charter of 1879, which enabled the Council to grant diplomas to the holders of the Highland and Agricultural Society's veterinary certificate. Then, in 1881, an Act of Parliament was granted to the profession, making it penal for any one to assume the title of veterinary surgeon unless properly qualified and holding the diploma, also giving the Council power to remove the name from the register of any member who, having committed a misdemeanour or higher offence, shall be deemed unworthy to be a member of the profession. It will be thus seen that, in the space of five years, the profession has obtained two charters and an Act of Parliament, and one would have supposed the Council would have been satisfied; but such was not the case, for during this year an application was made to the Privy Council for yet another supplementary charter to enable the Council to compel all candidates for the diploma to serve a period of pupilage with a veterinary surgeon before presenting themselves for the final examination. The schools were unanimously opposed to this charter, and the three Scotch schools, assisted by the Highland and Agricultural Society and the corporations of Edinburgh and Glasgow, were enabled to bring such arguments to bear upon the Privy Council as convinced that body that it would be inexpedient to grant the power craved for to the Council of the Royal College of Veterinary Surgeons. In every reform which had been established during the last fifteen years the Council had the willing and hearty support of the schools—indeed, it may be stated that many of the reforms emanated from the schools themselves; it, therefore, can only be a matter of regret that the majority of the Council insisted upon applying for this new charter, when the united voices of the teachers were against it. I will dwell upon this no longer. It has been a matter of regret to many well-wishers of the profession; however, let it pass, and in the future let all unite together in codifying and consolidating the powers we now possess. Let us all, also, reconsider our present system of examination, and endeavour to make it more in accordance with the methods adopted by our universities and other learned bodies, which, in comparison with our very young profession, may be considered entitled to the respect due to age and mature judgment. One apparent defect in the present system of examination requires immediate consideration, and that is the power which is now possessed by one examiner to reject a candidate who may have satisfied other five; and it must also be carefully considered by the Council whether the plan of examining a student clinically, previous to subjecting him to the oral examination, should continue any longer. Those of the profession who are engaged in teaching are of opinion that all students should, at their final examination, be examined on the more theoretical subjects first, and if successful be allowed to present themselves at the practical portion, and if successful obtain the diploma; but if rejected at their practical, they should not be compelled to present themselves for the theoretical portion again, nor return to college, but be allowed to cultivate their practical knowledge with a veterinary surgeon, or at a college, as they may deem most expedient. This matter has been brought before the Council over and over again, and though almost unanimously approved of at first, has not up to the present time been adopted. I must confess that individually I am surprised that an arrangement which seems to appeal to common sense and justice should not at once be adopted by the Council. The Principal concluded by giving the students a hearty welcome on entering upon the eleventh session of the College.

(*To be continued.*)

GLASGOW VETERINARY COLLEGE.

THE winter session of the Glasgow Veterinary College began on October 24th, when the introductory address to the students was delivered by Dr. Cameron, M.P. The proceedings took place, as usual, in the Lecture Hall of the College, 83 and 85, Buccleuch Street, and there was a large attendance. Principal McCall occupied the chair, and amongst those present were—Sheriff Clark, Mr. Henry Lamond, writer; Rev. David Watson, Woodside Church; Dr. Knox, Dr. Wm. Limont, Mr. Wylie (of Messrs. Wylie and Lochhead), Mr. Thomas Campbell, Kirkcudbright; and Mr. Pottie, Paisley.

Principal MCCALL said—I have very much pleasure in intimating that my friend, Dr. Cameron, member of Parliament for the city, will deliver the introductory lecture on this occasion—(applause)—and I am sure I need not say that you will be very glad to accord him a patient and attentive hearing. (Loud applause.)

Dr. CAMERON, who was warmly cheered on rising to speak, after a few introductory remarks, proceeded to deal with

The Status of Veterinary Medicine.

He said—The importance of a highly trained and scientific veterinary profession has long been recognised in many Continental countries, and especially in France. With us the recognition of the national importance of veterinary medicine has made slower way. But within the last few years the Legislature has taken steps to place it on the footing of a liberal and learned profession. Its claims have been recognised by the Crown in connection with the Egyptian campaign, in the decoration of a distinguished veterinary officer; and still more recently, the University of Glasgow has done credit to itself by being the first of all the Universities of the United Kingdom in imitating the example of the great Continental Universities and conferring its highest honours upon a distinguished and representative veterinarian—Mr. George Fleming—(applause)—a native of Glasgow, President of the Royal College of Veterinary Surgeons, with which this school is affiliated, and principal veterinary surgeon to her Majesty's forces. (Applause.) I trust that the day is not far distant when we shall see the appreciative recognition thus extended to veterinary medicine by Glasgow University repeated on all sides, and developed into closer bonds of alliance—when a Chair of Veterinary and Comparative Medicine will be regarded as indispensable in every well-equipped University Medical School, and when the professorships so created, open to the ablest man to whichever branch of medicine he may belong, will be regarded as one of the worthiest objects of ambition on the part of the scientific veterinary surgeon. But although, as I have said, the scientific and national importance of veterinary medicine is gradually forcing its way towards recognition in this country, the general public is slow to understand it, and I have therefore thought that probably the most useful end to which I could devote the opportunity placed at my disposal to-day would be briefly to recount to you some of the remarkable scientific work accomplished by veterinary surgeons or in connection with veterinary medicine during the last ten or fifteen years.

The Veterinary School of Lyons.

Notable among the veterinary schools of the world is the veterinary school of Lyons. The great master of that school is M. Chauveau, a gentleman whose name crops up in relation to almost every great discovery in the world of medicine made within the last score of years—a man who has succeeded in imbuing his pupils with his own instincts of research to an extent which

has shed a lustre altogether unique upon the Lyons Veterinary School, and has identified it with the advancement of our knowledge of the intimate nature of diseases to an extent almost unparalleled in the case of any other institution in the world. About twenty years ago there raged in France a fierce controversy as to the origin of vaccine. A Scientific Commission to investigate the matter was appointed at Lyons, and M. Chauveau was nominated as its chief. Hundreds of animals in the great national veterinary establishments of France were placed at his disposal for experiment, and in 1865 he published his report. This, for the light that it throws upon what is probably the most important branch of human preventive medicine, has never been equalled; and had more attention been paid to its teachings in this country, it might, I am confidently persuaded, have been instrumental in saving thousands of human lives. No man can carry through such a work as M. Chauveau performed, without raising side-issues which scientific curiosity will urge him to investigate.

The Nature of Contagion.

Having so intimately studied the habits and peculiarities of the contagions of Cow-pock and Smallpox, M. Chauveau next turned his attention to find out in what did contagion consist. Hitherto the vaguest ideas had prevailed on the subject. It was Chauveau who first proved that contagions were not gaseous or fluid or volatile, but particulate—that they consisted in minute specific particles—that these constituted the real disease-producing element, and that deprived of them the animal fluids in which they were suspended were deprived of all their powers of mischief. Going beyond Beale, he showed that vaccine lymph contained not one but two species of minute organic particles—one much smaller than the other. By a series of ingeniously-contrived experiments he succeeded in separating them from the organic fluids in which they are found suspended and from each other. He found that when thus separated the fluids and the larger particles were inert—the smaller particles embodied the specific contagion. Similarly he analysed the virus of Smallpox, Sheep-pox, and Farcy, and showed that in each of these diseases the infective power resided in specific particles, and that freed from them the fluids with which they were associated could not produce the disease. He showed that the concentration of these disease-seeds varies greatly in the viruses of different diseases—that that of Sheep-pox, for example, may be diluted with water thirty times as largely as that of Cow-pock without rendering it of inferior fertility. (Applause.)

Splenic Fever and "Braxy."

Since the publication of Chauveau's discoveries in 1868, huge strides have of course been made in our knowledge regarding the intimate nature of disease; but all through we are indebted for the advance to investigations of the diseases of the lower animals, and to a large extent to researches conducted by members of the veterinary profession. The instance which best illustrates this is the history of a disease terribly fatal among the flocks and herds of France, and known as Splenic Fever. You have all heard of "Braxy," and in the veterinary hand-books Braxy is given as a synonym of Splenic Fever. I have made many inquiries as to the real nature of Braxy—from among other authorities my friend Professor M'Call—but have never been able to obtain anything like proof of the identity thus generally alleged. But whatever be the disease or diseases known in this kingdom under the name of Braxy, they evidently merit a closer study than they have yet received; and if the identity ordinarily accepted prove correct, what has been done abroad shows how much may be done at home to relieve our sheep-farmers from what in many instances is a

source of disastrous loss. Over thirty years since a French physician, M. Davaine, discovered that in the disease known as Splenic Fever an abnormal organism could be detected by the microscope in the blood, and that blood containing that organism inoculated on healthy animals gave rise to the disease. Eight years after the publication of those discoveries of Chauveau's to which I have referred, Dr. Koch, then an unknown German country practitioner, transplanted the organism discovered by Davaine into the aqueous humour of dead oxen's eyes, and maintaining them at blood-heat found that it could be grown and cultivated altogether outside the living animal.

M. Pasteur.

A few years later M. Pasteur, a French chemist of extraordinary genius and fertility of resource, who had investigated the whole subject of fermentation with marvellous success, and had shown how wine, vinegar, and beer might be practically dealt with in such manner as to do away with the great loss entailed through the complication of the fermentations involved in their production by pernicious and deteriorating fermentations—who had subsequently been appointed by the French Government to investigate the disease of silkworms, which threatened to destroy the silk-producing industry, and had succeeded so perfectly as to unravel the habits and phenomena of the disease from the silkworm-egg to the moth, and to show how, by the application of the knowledge thus gained, the silk-producer might once more prosecute his calling with the old certainty of success—a few years after Koch's discovery, as I have said, M. Pasteur directed his attention to an exhaustive study of the Splenic Fever of sheep and cattle. You have all probably heard more or less of the results which he achieved, but for almost the first step towards these results he was indebted to a contemporaneous discovery by a veterinary surgeon, M. Toussaint, of Toulouse, a distinguished pupil of the Lyons school and of M. Chauveau. (Applause.) There is a disease which had about that time ravaged the poultry farms of France, and which was known as Chicken Cholera. In investigating this M. Toussaint discovered that like Splenic Fever it depended upon a minute organism which multiplied itself in the blood and tissues of the fowl attacked. He ascertained further that this organism, like that of Splenic Fever, could be cultivated outside the animal body. The discovery at once attracted Pasteur's attention, and he set to work to find out more about the subject.

Microbes.

And now, to avoid periphrasis, I must introduce you to a word of recent naturalisation into English—"microbe" to wit. We have heard of specific particles in the fluids of vaccine, Smallpox, Sheep-pox, and Farcy, and of specific organisms in Splenic Fever and Fowl Cholera. That these organisms are living there can be no doubt. Some of them can be seen under the microscope to grow and multiply themselves, sometimes by a process of cell division or budding, sometimes by the production of seeds or spores. They are now by general agreement credited to the vegetable kingdom, but some of them being endowed with powers of motion, there was at first considerable doubt as to their real nature, and Sedillot suggested for them the non-contentious name of microbes—small living organisms. This term was found convenient, and the minute organisms now detected in connection with a very considerable number of diseases are all generically spoken of as microbes. Well, turning his attention to the microbe of Chicken Cholera, Pasteur discovered that outside the body it could be cultivated most successfully in chicken soup. Place a drop of blood drawn from a fowl affected with the disease in an ounce of chicken soup and maintain it at a suitable tempera-

XUM

ture, and the disease-microbe will multiply itself so as speedily to render the fluid turbid. Take a drop of this and repeat the process from day to day, and the same thing occurs, and at the end of a long series of cultivations, which must have effectually purified it from all trace of the fluids of its original host, the microbe retains its original virulence, and inoculated upon fowls or mixed with their food produces the original disease. But applying a piece of experience gained in his study of fermentation, Pasteur discovered that by slow and prolonged cultivation in oxygen the character of the microbe became altered. It became tamed or attenuated, as he termed it. A virus, so fatal that if inoculated on a score of fowls it would kill every one of them, might thus be attenuated so that at first it would kill only one-half, then one-third, and lastly, that it would not kill any at all. It was shown that, as in Smallpox and a number of other maladies, the animal which had been attacked and recovered was not ordinarily liable to subsequent attacks, and Pasteur proved that the same result followed in fowls inoculated with the microbe so attenuated as not to endanger their life. The fact of protection by vaccination against Smallpox had long been familiar to all; but here, for the first time, M. Pasteur had succeeded in systematically producing an artificial vaccine against a totally different disease. This was a great scientific discovery, but you may think one of little practical importance. Its practical importance lay in this, that it induced M. Pasteur to attempt the same procedure with the microbe of Splenic Fever. Certain peculiarities in the mode of propagation of that organism at first baffled his attempts. But before his indomitable perseverance every obstacle gave way, and the result was the attenuation of the microbe of Splenic Fever on precisely the same principle which had proved successful in the case of Fowl Cholera.

A Great Sheep-vaccination Experiment.

Splenic Fever is another of those diseases in which an attack that is not fatal protects against subsequent ones, and Pasteur showed by crucial tests that animals submitted by inoculation to the action of the attenuated microbe, while hardly inconvenienced by the experiment, were effectually protected against the influence of subsequent infection. In carrying out the operation on a large scale, as was to be expected from analogy, the protection afforded was found not to be absolute, but of its extent and importance you can best judge by the results. The Department of Eure-et-Loire was one in which the ravages of Splenic Fever had been most disastrous, and there, after experiments on a comparatively small scale, Pasteur's system of vaccination against the disease was largely resorted to. Between October, 1881, and October, 1882, close on 80,000 sheep, and 4,500 bullocks and cows in the department were inoculated with the attenuated microbe supplied from Pasteur's laboratory, and at the close of the latter month the Veterinary and Agricultural Society of Chartres published a report of the results. The average annual loss from the disease among sheep in this department had been 9 per cent. Among those protected by Pasteur's process it was under two-thirds of 1 per cent. (Applause.) But it happened that the year had been an unusually healthy one, and the loss among the unprotected animals had on this occasion fallen to 3 per cent. This would still represent a saving of $2\frac{1}{3}$ per cent. in favour of the animals protected by the Pasteurian system, or close on 1,900 sheep in the 80,000. Among cattle the annual average loss had been over 7 per cent. Among the 4,500 protected by Pasteur's method it was reduced to a quarter of one per cent. But it might be argued that perhaps the protected animals pastured upon healthier herbage. To meet this objection flocks of sheep, comprising close upon 4,000 animals, were taken. Half or two-thirds of each were vaccinated, and the others were left untouched, and they were turned out together under precisely

similar conditions. Among the protected the percentage of loss from Splenic Fever was less than one-tenth of what it was among the unprotected. But owing to defects in procedure, the virus used as a vaccine had occasionally proved too strong, and fatal accidents had resulted. That this drawback required only experience to remedy it, was proved by the fact that at the later stage of the experiment over 16,000 sheep, cattle, and horses were inoculated with virus prepared according to M. Pasteur's rules, with only one single accident.

Pig-typhoid.

Nor are Chicken Cholera and Splenic Fever the only diseases which Pasteur has succeeded in reducing to submission. Within the last few weeks he has announced a similar success in connection with what is known as Pig-typhoid, a disease which, a few years ago, wrought such havoc among the swine of this country, that it was the subject of a special inquiry at the hands of Mr. Klein, one of the medical officers of the Local Government Board. Mr. Klein announced at the time that he had succeeded in isolating by artificial cultivation the specific microbe of the disease. In this Pasteur alleges that Klein was mistaken, and maintains that the microbe which gives rise to Pig-typhoid presents characteristics essentially different. The microbe which he describes he has succeeded in isolating and attenuating by his process, and pigs protected by his vaccine have so far shown themselves proof against infection by the disease even when inoculated with its strongest virus. To test the matter practically, in a district where the disease is endemic, a number of pigs have been divided into two lots—one vaccinated against Pig-typhoid and ear-marked, and the other not. These, like the sheep in Eure-et-Loire, have been turned out to herd together, and the result of the experiment remains to be seen.

(*To be continued.*)

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

AT the monthly Council, held on November 7th, 1883, Lord Egerton (Chairman) presented the following report, drawn up by Professor Axe, in reference to his inquiries into the question of abortion in ewes, which had been forwarded by the Secretary of the Lincolnshire Agricultural Society :—

October 2nd, 1883.

DEAR SIR,—In reply to yours to hand on the 30th ult., I beg to say that my inquiry into the question of abortion in ewes is not yet completed. In order to render the investigation as thorough as possible, I have, for some time, been endeavouring to obtain information from veterinary surgeons and shepherds in different localities as to the prevalence of abortion in various parts of the country other than Lincolnshire. I need hardly say that my inquiries have not met with that promptness of reply which I could wish, but I hope, shortly, to be in full possession of the information I desire to obtain. For the present information of your Council, I may say that, so far as I am now capable of forming an opinion of the origin of the disease, two factors appear to me to have been specially concerned—viz., long continued exposure to the wet, and the exclusive or too free use of roots as an article of food. The first-named cause appears not only to have operated directly by lowering the temperature of the body, and suppressing the function of the skin as an eliminating organ, but indirectly also (1) by exciting

XUM

and maintaining a painful ulceration of the feet (Foot-rot), and extensive inflammations of the skin of the legs and belly, thus entailing acute and protracted suffering and weakness; (2) by rendering the soil so deep, heavy, and slippery, that ewes advanced in pregnancy have suffered great fatigue and constitutional disturbance, while the well-nigh water-logged condition of the land, has compelled them to occupy the standing posture for long periods together; and by thus depriving them of rest, has led in numerous instances to a state of exhaustion altogether inconsistent with the retention and maturation of the fœtus.

The mortality and loss has undoubtedly in all cases been seriously aggravated by the influence of the discharges from the sick on the more healthy portion of the flock, and in some outbreaks there has been reason to suspect that such accidental causes as overdriving and fright have played an active part in producing the mishap. As the breeding season is now commencing it may be advantageous to the members of your Society if, pending a detailed report of my investigation, I briefly point out what I consider desirable for the better management of the ewe flock in relation to the subject in question. In this connection it is important to remark that the practice of winter-feeding, more or less general in this country, condemns the breeding ewes to subsist exclusively on roots during the most trying months of the year, and over a period when the demands of pregnancy call for a liberal and sustaining diet; nor is it in this alone that the worst feature of our winter-feeding exists.

The custom of restricting the diet of the ewe to the filth-laden "shells," or residue of roots, left after the folding of hogs, is even still more to be condemned not only as a fruitful cause of abortion, but other diseases even more serious and fatal. As a matter of precaution, then, I would say for the immediate guidance of your Society, that while as a matter of expediency it may be allowable to continue to fold ewes after hogs, as is generally practised, it is at the same time indispensable to the health and vigour of the flock that a fair amount of fresh roots be also given, as well as wholesome, dry food, in quantities according to the nature of the season. From the time ewes were placed on turnips to the time when they lamb down, I am of opinion that wholesome dry food is imperatively demanded, and that disregard of this rule of diet exposes both patient and progeny to many fatal disorders. I would also advise that salt be kept constantly in the fold, so as to be accessible at all times. When the lair is bad the flock should be removed to higher and drier ground. The practice adopted by many of our best sheep-farmers, of changing the fold for the open pasture once or twice a week, cannot be too highly estimated as a means of maintaining a healthy condition of body, and warding off disease. Where Foot-rot prevails, the affected animals should be withdrawn from the fold as soon as observed, and placed on dry clean litter, and receive such other treatment and attention as the nature of the case may indicate.

In my next report I hope to lay before your Society all the more important facts which I have accumulated in the course of my inquiry.—I am, yours faithfully,

J. WORTLEY AXE,
Professor of Pathology, etc., etc.

S. Upton, Esq.

The Committee reported that since August, Foot-and-mouth Disease had spread extensively over the country, and they were of opinion that the present restrictions are inadequate to stop the progress of the disease.

In presenting this report, Lord EGERTON gave notice that, at the next meeting he would move for the renewal of the veterinary grant for 1884; and he added that, in view of the notice of motion standing on the agenda in the name of Mr. Jacob Wilson, the Committee had not expressed any further

opinion than that the present restrictions were inadequate to prevent the progress of Foot-and mouth Disease.

Earl CATHCART remarked that there was an article in the Society's Journal on the salicylic treatment of Foot-and-mouth Disease by Sir Edward Kerrison, which, in addition to the paper by Professor Brown, was the only paper relating to the subject of the disease in the Journal. He wished to ask Professor Brown whether salicylic acid had, in general practice, succeeded or not.

Lord EGERTON said he had tried salicylic acid very largely, and had not found any beneficial results attend its use.

Professor BROWN said that unfortunately, owing to the circumstance that the treatment had not been to any extent tried in this country, he was unable to state whether it had been successful in other hands than in Sir Edward Kerrison's. There was no doubt it had been successful in Germany, and it appeared to have been so in some instances here, but in some cases it had not been tried on the German plan, but in conjunction with certain other agents, which the practitioner thought of equal value. According to the German plan it was necessary to take four tablespoonfuls of the acid, put in an *earthen* vessel, and dissolve in a quart of boiling water, and then add sufficient hot water (which need not be actually boiling), and make up one gallon. With this mixture proceed to treat—rinse the animal's nose and mouth, and wash the feet, and udders, if affected, adding about a pint of the solution to the daily supply of drinking water, and taking care to thoroughly saturate the litter with the solution. This system had answered in Germany, and in the very few cases in which it had been tried here, he believed. But if this treatment was tried in connection with other agents, it was impossible to say what the total results might be, and he did not hesitate to say that this was not giving the system a fair trial. The Council would remember that they some time ago instituted an experimental investigation into Foot-and-mouth Disease, and that the Principal of the Royal Veterinary College wrote to owners of stock suffering from disease, but, generally speaking, he found considerable difficulty in getting a field for their operations. A great many persons did not seem to care whether their animals were treated or not, and in some cases animals had so far recovered on the arrival of a Professor from the College, that it was useless to experiment upon them. In this connection he might state to the Council that the circumstance of Foot-and-mouth Disease being allowed to run its course entirely unchecked by any treatment was positively a new and remarkable phase in veterinary science. People seemed to think that when the disease came into their herd the losses it would cause were absolutely inevitable, and that therefore it was useless to try to ameliorate them.

Earl CATHCART: What would be a dose in the drinking water of each animal?

Professor BROWN: The best plan is to take a pint of the solution and pour it into the drinking water which one animal would probably consume in the day.

Mr. LITTLE observed that having had a fatal outbreak of Foot-and-mouth Disease in his own stock, and having, on the recommendation of Professor Robertson, tried salicylic acid, though certainly in combination with other remedies, he found no benefit from that or the other remedies which were recommended.

Professor BROWN contended that, in order for the German method to be fairly tried, it ought to be carried out in every particular. Professor Robertson had not adopted the German plan.

Mr. RANDELL said he was quite sure that all the Council would share his regret that Mr. Jacob Wilson was not present to bring forward the reso-

lution standing in his name, more especially as his absence was caused by a somewhat serious illness. However, feeling strongly the importance of Mr. Wilson's proposition, he (Mr. Randell) was confident that the Council would accept it, even without that gentleman's able advocacy. It was worded as follows :—

That in consequence of the continued prevalence of Foot-and-mouth Disease throughout the country, the Council desire again to urge upon the Government the necessity of adopting the recommendation of the Royal Commission on Agriculture :—"That the landing of foreign live animals should not be permitted in future from any countries as to which the Privy Council are not satisfied that they are perfectly free from contagious disease ;" —and further, as they are strongly of opinion that uniformity of action on the part of local authorities would rapidly arrest the spread of infection, they wish to press the Government to take the necessary steps to effect this object.

In reference to the first part of this resolution, he would simply say that nothing could be more reasonable than the recommendation of the Royal Commission on Agriculture, and at the same time he was sorry to say that nothing could be more absolute than the way in which that recommendation had been ignored. In 1880 this country was free from disease until September ; in 1881, one hundred and forty-three cargoes of diseased animals were landed at different ports ; in 1882, sixty-six diseased cargoes were imported ; and in the first six months of 1883, forty-three cargoes of diseased animals—with this effect, that during this year more than 200,000 animals had been affected with Foot-and-mouth Disease in Great Britain and Ireland. Let them consider for a moment what would be the effect if all these animals imported from foreign countries were prohibited, in comparison with all the losses our farmers had suffered. In every instance where these diseased animals were imported we were subject to salesmen, butchers, and drovers, coming in contact with them, and carrying about, wherever they went, the seeds of the disease. How could they hope, then, to be ever clear from the evil from which so many agriculturists had suffered ? If the question were to be looked at only as a consumer's question—which he was sorry to say appeared rather the tendency in many quarters—surely we should get more meat, and certainly more wholesome meat, from countries which now send infected animals if the animals were conveyed dead instead of alive. Let them consider also what was the loss to the consumer of home-grown meat consequent upon these diseases. It would not be difficult to estimate the loss of meat from the 200,000 animals ; but that was not all, for it should be borne in mind that half-fed meat was hastened to the markets and got rid of, lest it should be infected with the disease. By the continued importation of disease the breeding of live stock was discouraged ; the consumers of it consequently had less of home-grown meat, and the producers of it were impoverished. With regard to the second part of the resolution, the recommendation that the action of local authorities should be uniform, he thought the Council would be entirely of that opinion. At the same time one could not help feeling that if the noble President of the Privy Council would only see the effect of this continued importation of foreign disease, he would see also that it was by that means that so much of the action of local authorities was required. Only stop that importation, and the local authorities' restrictions on an outbreak in any of their districts of Foot-and-mouth Disease would be comparatively few. The less disease there was, the less this action was required, and the less the farmers of this country would be inclined to complain of the grievances of some of these restrictions. It was because they felt that, notwithstanding these restrictions, and in spite of them all, they were still exposed to the action of this disease. At the same time he was sorry to see the farmers in some counties expressing

an opinion that they would be better off without the restrictions than with them. That was simply the language of despair, arising from the feeling that after the inconvenience they suffered from the restrictions, they were thrown away, and without the stoppage of the importation of this poison, all these restrictions and all their inconvenience went for nothing. He should be sorry indeed to know that this feeling was spreading ; for it could be seen plainly enough that if that feeling were acted upon, coupled with the continued importation, we must simply stop breeding altogether, and it would become a question of disposing of our animals for what they would fetch, rather than risk their infection by Foot-and-mouth Disease. He begged to move the resolution which Mr. Jacob Wilson had drawn up.

Obituary.

We are deeply sorry to announce the death of Hartley Thomas Batt, F.R.C.V.S., London, on November 7th, at the comparatively early age of fifty-four years, from ulceration of the stomach, associated with frequent and profuse hæmorrhage. Mr. Batt entered the profession in 1850, and practised with great success in London, where he was one of the leading practitioners at his demise, and highly esteemed by all who knew him, within and without the professional circle, for his integrity, ability, and eminently social qualities.

As a foundation Fellow of the Royal College of Veterinary Surgeons, he took the liveliest interest in the welfare of the Corporation, and spared no pains to promote its objects. The demands this made upon his scanty leisure were neither unfrequent nor inconsiderable. As a Member of Council, like the majority of the other members who reside in or near London, a heavy share of the work of committees fell to his lot, especially during the early part of the present year, but he discharged the onerous duties imposed upon him with assiduity, care, and punctuality. His loss, heavy and painful to his family, will be much felt in the Council, where his services were always to be relied upon, and where his judgment and impartiality in all questions affecting the interests of the profession were so valuable.

A young member of the profession has also been taken away, in the person of George Deveson, M.R.C.V.S., who died suddenly of heart disease, at Stevenage, near London, in the twenty-fifth year of his age, he having graduated only in 1880.

The death is reported of C. T. Shorten, M.R.C.V.S., late of Ipswich, who graduated in 1842.

We are asked to state that the report with regard to the death of Walter Holland, M.R.C.V.S., Manchester, is incorrect.

Theodore-Auguste Thiernesse, late director of the Brussels Veterinary School, died at Ixelles, Belgium, on October 17th, after a long and painful illness, at seventy-one years of age. Professor Thiernesse occupied a very high position in the medical and veterinary professions, and during his long career as a teacher, had done much in promoting them by precept and example. He contributed many papers of scientific interest to professional journals, and the estimation in which he was held is evinced by the fact that he was Member and Secretary of the Royal Academy of Medicine and Member of the Superior Council of Hygiene of Belgium, Corresponding Member of the Academy of Medicine and Society of Biology of Paris, and other learned societies. He was also decorated as Commander of the Order of Leopold, and was an officer of the Oak Crown. He was an Honorary Associate of the Royal College of Veterinary Surgeons.

XUM

Army Veterinary Department.

Gazette, November 10th.

Veterinary Surgeon S. Longhurst to be First Class Veterinary Surgeon: to date from June 14th.

Notes and News.

POISONING BY FLESH.—Dr. Ruysch reports the poisoning of about two hundred persons in the town of Heesch, Holland, who had eaten the flesh of a cow that had died in calving, also the flesh of the still-born calf, and of another dead calf. All who had eaten the meat were taken ill, and three died. They suffered from severe gastric symptoms, chills, fever, headache, and great depression, so that the physicians supposed at first that they had to do with an epidemic of typhoid fever. Others presented the symptoms merely of gastro-enteritis. The nature of the poison in the flesh could not be clearly determined, as none of the animals had died from an infectious disease.

HORSES IN THE UNITED STATES.—The horse population of the United States is now over 11,000,000, or about one horse to every five human beings. According to the 1880 census, the leading horse States, with number of horses respectively, were: Illinois, 1,023,082; Ohio, 736,478; New York, 610,358; Pennsylvania, 533,587; Michigan, 378,788; Kentucky, 372,648. Two-thirds are draught and all-work horses, and one-third is used for pleasure driving.

A QUARTER'S IMPORTS OF FOREIGN LIVE STOCK AND FRESH MEAT.—The prevalence of Foot-and-mouth Disease in the various English towns, and the consequent restrictions on the movement of home cattle, has caused a considerable amount of interest and importance to be attached to the weekly arrivals of foreign live stock and fresh meat; and to meet the increasing demand for American meat, it is understood that arrangements for large shipments to this country have been made with shippers in Canada and the States. The statistics of the import to Liverpool of foreign live stock and fresh meat from the United States and Canada during the months of April, May, and June of this year are as follows:—Head of cattle, 27,055; sheep, 19,922; quarters of beef, 84,573; carcases of mutton, 12,079: and the following months, July, August, September—Head of cattle, 31,583; sheep, 33,800; quarters of beef, 83,050; carcases of mutton, 6,491. The total figures show that in the shipments landed during the last three months there is a decided increase in the importation of both cattle and sheep, more especially with regard to sheep, in comparison with the imports of the previous three months. The consignments of fresh meat, however, during the last quarter show a great falling off when contrasted with those of the former ones, more particularly in mutton, which has lately arrived in much smaller quantities than in the earlier part of the year. It may also be mentioned, that during the first week of October no less than ten steamers with live stock and fresh meat on board arrived at Liverpool from the United States and Canada, bringing a collective supply of 2,280 cattle, 3,157 sheep, 9,231 quarters of beef, and 1,526 carcases of mutton.

RINDERPEST.—Cattle Plague (Rinderpest) is making progress in eastern Europe. Between the 28th of August and the 27th of September, 1,256 head of cattle are officially reported to have died of Rinderpest in the government of Podolia. The corresponding figures for Bessarabia have not yet

been published, but it is known that the disease is not yet on the decline in that province. The Roumanian Government have removed the frontier bridge over the Pruth, so as to break off all land communication with Bessarabia. Orders have been given to have every animal shot the moment it shows any symptoms of disease, and the entire carcase, including the skin, burnt. In order to faciliate this being done, the Roumanian Government is said to have undertaken to pay for every hide burnt on the body of an animal which has died of the disease, and for the whole animal, including the hide when shot. The Sultan's Government has interdicted the importation of Russian sheep into Turkey. The importation of pigs from Russia into the neighbourhood of Königsberg has been forbidden by Government by road as well as by railway. Rinderpest broke out in Breslau, and, in accordance with the law, the three head of cattle that were attacked, and also all the other cattle that were in the field, were killed immediately, and an order was issued forbidding the transfer of cattle in several districts in Silesia and Posen. As the precautions have been strictly adhered to, it is hoped that the disease will be quickly stamped out. The disinfection of cattle vans in Berlin is now very efficient. After being thoroughly drained and rinsed mechanically, the van is washed with water and a hundredth part of soda, which quantity is increased if the animals have suffered from a particularly infectious disease, and chloride of lime is added as well. Carbolic acid is seldom used now. A generous supply and use at all large stations has been found very effectual in preventing the spread of disease amongst cattle.

THE PROPAGATION OF DIPHTHERIA.—The *Wiener Allgemeine Medicinische Zeitung* states that Professor Gerhardt, of Würzburg, has carried out a series of observations for the purpose of determining whether Diphtheria may be communicated by pheasants, pigeons, and domestic fowls, and has come to the affirmative conclusion. In September, 1881, 2,600 fowls were sent from the neighbourhood of Verona to Nesselhausen, in Baden, where there is a great fowl-rearing establishment. Some of them must have been affected with Diphtheritis before they started, and in the end 1,400 fowls died of it. In the summer of last year 1,000 chickens were hatched from eggs collected from many different places. Six weeks after their birth Diphtheritis manifested itself among the young chickens, and so badly that in a short time they all died. Five cats that were kept in the establishment also became ill of the same malady, and died. A parrot that hung in a cage in the house was also attacked, but recovered. Last November an Italian hen, while being "painted" about the jaws with carbolic acid by the chief keeper, bit the man's wrist and foot. Presently he became ill with a smart fever, considerable swelling at the wounded parts, and all the symptoms of Traumatic Diphtheritis. His recovery was very tedious. This was not the only case of the transmission of the disease to men. Two-thirds of all the labouring persons employed about the establishment became ill with ordinary Diphtheritis, and one man conveyed the infection to his three children.

SWINE PLAGUE.—A recent order of Council issued in the *London Gazette* provides for the conduct of experiments at the Brown Institution in connection with Swine-fever. The order commenced immediately after October 26, and will expire immediately after June 30, 1884.

TRICHINOSIS IN GERMANY.—There has been a serious outbreak of Trichinosis at Ermersleben, near Halberstadt, Germany, and other places in the vicinity of that town. More than 300 persons have been attacked, and it is reported that thirty have died.

XUM

Correspondence, etc.

A CORRECTION.—NATIONAL VETERINARY ASSOCIATION.

DEAR SIR,—I regret to say the names of Mr. Matt. Hedley, F.R.C.V.S., Dublin Castle, and Mr. G. B. Miller, Inspector, Dublin Castle, were, by mistake, omitted from the list of members published in the Association's proceedings and the October No. of the VETERINARY JOURNAL.

Yours faithfully,

Nov. 5th, 1883. GEO. A. BANHAM, *Gen. Sec., N.V.A.*

ADVERTISING.

DEAR MR. EDITOR,—Enclosed you will find a copy of an advertisement in a local paper by a "registered practitioner," which may or may not enlighten some of the members of the veterinary profession who perhaps have not had the opportunity of seeing it before. I should be glad if you would insert it in your next issue.—I am, etc. DISSENTER.

"IMPORTANT TO FARMERS AND BREEDERS OF CATTLE.

"PREVENTION OF BLACKLEG, QUARTER ILL, OR MURRAIN IN YOUNG CATTLE.

"I DESIRE to bring under your notice a new remedy (in this country) for the prevention of the above, introduced to me by a Gentleman of 20 years' experience, who states:—'I have practised it on hundreds of Cattle every year, for the last 20 years, without one case of failure.' But not to speak of my own work, there is evidence in the enclosed Testimonials that the method pursued is very successful in its results. I have, myself, practised it on Cattle last Spring, for some of the largest cattle dealers in Wales, with, so far, perfect success. The disease, as is well-known, is very fatal in many districts, and great loss by it is of every-day occurrence. The treatment consists in a species of inoculation, by which the young animal is freed from liability to the disease. A preparation is inserted under the skin in each quarter, and so quickly does it permeate the system, that within a few minutes of its application the smell of the ingredients is perceived in the breath of the animal. The art of the operation is in the way of performing it, so that the remedy shall remain inside the skin, and not come out until the animal is killed and skinned, when it will be found as fresh and active as when first put in. The best time to perform the operation is the Autumn, although it can be done at any time. Stock-breeders losing Cattle from Blackleg would do well at any rate to give it a trial.

"Apply, EDWARD DAVIES, V.S., Llangedwyn."

[We must not overlook the fact that some members of the profession advertise in a similar manner to the above.]

PAPERS AND DISCUSSIONS AT VETERINARY MEETINGS.

SIR,—Observing an article in this month's VETERINARY JOURNAL on the subject of "Papers and Discussions at Veterinary Meetings," such article being from the pen of Mr. James Lambert, of Dublin, and which in my

opinion is very opportunely introduced, since I have frequently heard it commented upon by many able and experienced men as being in bad taste for any member to interlard his remarks with so many newly-coined or newly-imported technical terms, simply, as would appear, to show off his erudition (or apparent erudition), when he could clothe his thoughts in modern English language quite as elegant, and be far better understood by his audience. It is excusable when an author is writing upon some highly scientific subject, and it is necessary to use terms in order to express more accurately his exact meaning. Or, for a teacher instructing his class in the lecture-room, he may often employ a word that will comprehend more than a whole sentence ; but to use them on all occasions before a meeting of general practitioners, many of whom have not heard them before, such a speaker makes his remarks less effective ; he does not in the slightest degree give greater weight or clearness to his subject, but, as it would appear, does it for the sake of making himself appear very learned and important. I have at times felt grieved and pained to sadness in listening to members who have become possessed of this craze. It cannot be doubted these Veterinary Associations have already given an immense impetus, and it may be argued that to keep abreast of the times we live in, we must learn and study these technical terms ; that we must not only know their meaning, but we must use them in our daily conversation with each other ; that it is only by these means that we can be distinguished from the uneducated and non-scientific man. I admit that there are times and occasions, as we pass through life, when the knowledge of these terms may be of great service to us, and it is well to be taught them ; but I strongly object to their being thrust upon us in season and out of season. I hold that it is of infinitely greater importance that the knowledge obtained by close observation, and extensive experience amongst our patients, should be given freely and candidly at these veterinary meetings : it would throw great light on matters upon which we have now little exact knowledge. We must not make these high scientific attainments the vital consideration, and allow the useful, the practical application of our knowledge to become secondary. In ascertaining the dignity of one I am maintaining the credit of the other, and thus wish to consolidate and ensure the power of both, and build up the rights, the privileges, and usefulness which it is our great good fortune to enjoy, and which we hope to transmit to future ages undisturbed and unimpaired, and in its full force for the good of all. It is this feeling which is the source of all great action, and by a noble determination to promote the advancement, the happiness, and the prosperity of our profession. We know full well, as science advances—so vast is the scope and the subjects that crop up, that we stand amazed and feel puzzled to decide—it is always delicate, and sometimes difficult, but difficulties are opportunities. There is no credit to be earned where there is no possibility of going wrong. I anticipate unbounded advantages—most solid and real advantages—from these veterinary medical meetings, if only they be conducted on sound and proper principles. This conclusion is arrived at by no arbitrary act, but by the slow and irresistible force of conviction. But by one means or other we must, if possible, infuse more interest and enthusiasm into these meetings, in order to extract from them, if we can, pure and unmixed advantages of the highest order. There is something in this so attractive that it is an image that must always command the homage of every lover of our profession.

When sometimes meditating on my profession, I feel that those who advocate high classical education, and who wholly ignore and repudiate the usefulness of the practical teaching of the general practitioner, are drifting unconsciously to the conclusion that practical, useful knowledge can bear no comparison in importance to the superlative and ornamental side of the picture. Surely the common sense in my profession feels the great import-

ance of collective investigation of disease by the general practitioner, and will comprehend the vast difference between the refined linguist, as such, and the true veterinary surgeon as such. If polished and elegant elocution must be considered the predominating feature in our qualification in the future, then I think it will be easily seen that our profession has not a noble and useful future before it, but a permanent decadence in real worth will be the result.

Yours, etc.,

Manchester. THOMAS GREAVES, F.R.C.V.S.

AN OMISSION.

WE are requested to state that the name of Mr. E. Philip Evans was accidentally omitted from the List of those Students of the Royal Veterinary College who received a certificate for having acted as Monitor during last Session.

TO CORRESPONDENTS.

VERAX.—We do not know of any vacant appointment, or one likely to become vacant.

No notice can be taken of anonymous communications. Whatever is intended for insertion must be authenticated by the name and address of the writer, not necessarily for publication, but as a guarantee of good faith. We cannot undertake to return rejected communications.

Several communications are held over to next month, in consequence of pressure on our space.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Professor McCall, Glasgow; Professor Walley, Edinburgh; W. O. Williams, Edinburgh; J. Clark, Coupar Angus; T. Carnachan, Kirkcudbright; W. Broughton, Leeds; J. Macqueen, Glasgow; H. Jenkins, London; A. Broad, London; T. Greaves, Manchester; E. A. Batt, London; J. Meredith, Ellesmere, Salop; "Dissenter"; J. Rhind, Edinburgh; R. A. N. Powys, London; Verax.

BOOKS AND PAMPHLETS: *MM. Arloing, Cornevin, et Thomas*, Du Charbon Bactérien; *G. Ercolani*, Placenta dei Mammiferi e della donna; *H. Plant*, Untersuchung über eine neue Krankheit der Lämmer; *A. Silvestri*, Le leggia della eredita nella produzione del Bestiame; *J. K. Ableitner*, Die Hufbeschlagskunst der Pferde.

JOURNALS, ETC.: *Annales de Méd. Vétérinaire; Zeitschrift fur Vergleichende Augenheilkunde; Tidskrift för Veterinär-Medicin; Repertoriun der Thierheilkunde; L'Écho Vétérinaire; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde und Viehzucht; Archives Vétérinaire; Journal de Méd. Vétérinaire; Lancet; Revue Vétérinaire; Chicago Live Stock Journal; La Clinica Vétérinaria; British Medical Journal; United States Veterinary Journal; Deutsche Zeitschrift för Thierheilkunde; Mark Lane Express; American Veterinary Review; Medical Press and Circular; Die Huf-Schmiede; Edinburgh Medical Journal; Der Thierarzt; Archiv für Wissenschaftliche und Praktische Thierheilkunde.*

NEWSPAPERS: *North British Daily Mail; Irish Times; Sport; New York Herald; Land and Water; North China Daily News; North British Agriculturist.*